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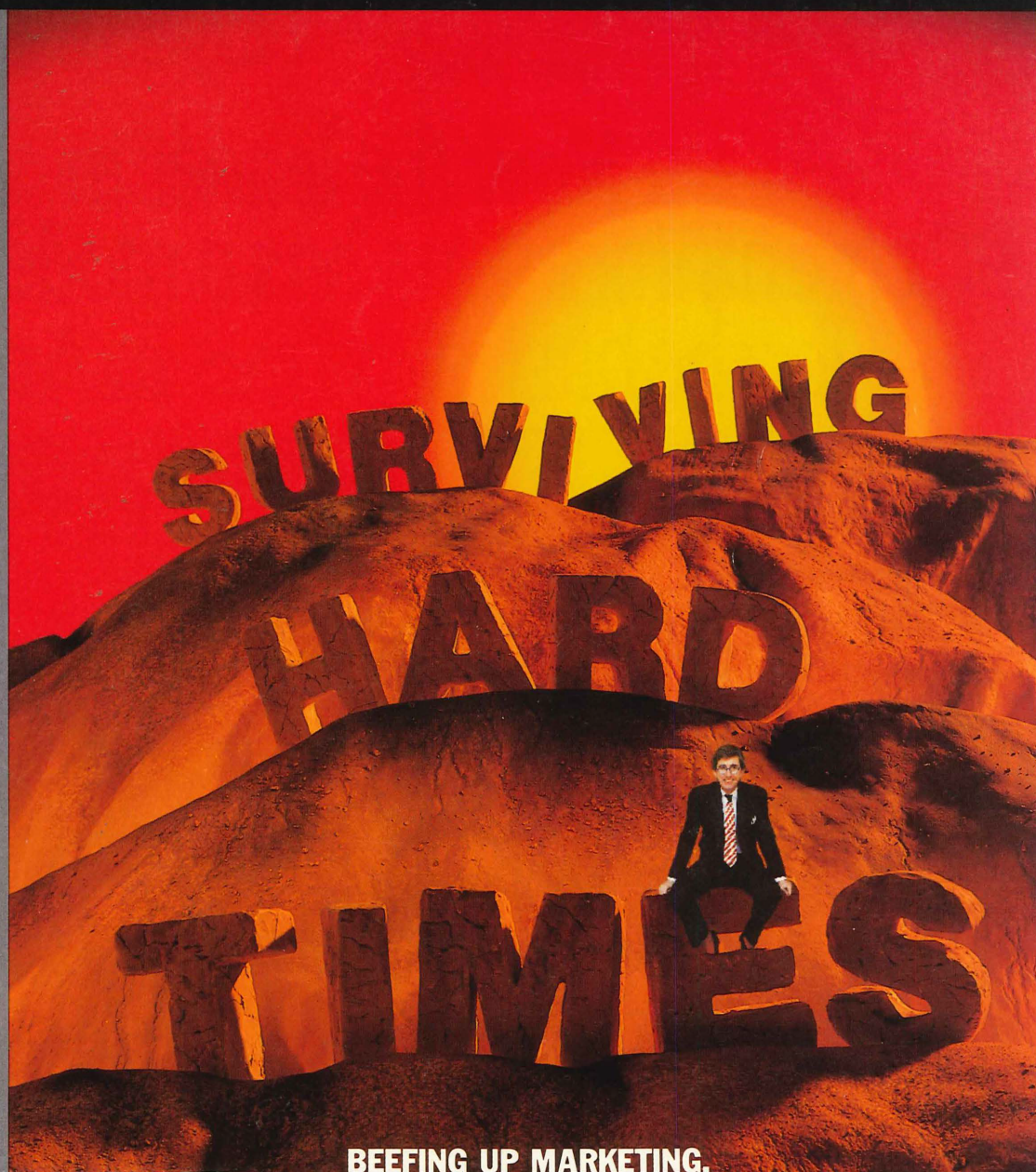
**Low-Cost
Word Processors:
Alternatives to
the Big Three**

**5 Product
Reviews for Your
Home Office**

**Going On-Line for
Home-Business
Know-How**

**Choosing
the Right Partner
for Your Small
Business**

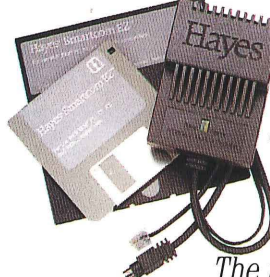
**Make Money
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TO HELP YOU THROUGH DRY SPELLS**



71



If you're one of the millions of people who use PCs to conduct business from the home, Hayes has some very important news for you.

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MAY
1990
VOLUME 8
NUMBER 5

Find out what entrepreneur Matthew Lesko (pictured) and other business professionals know about enduring tough times in this month's cover story.



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Page 58

COVER PHOTOGRAPH BY CHRISTOPHER GOULD



Page 39

FEATURES

COVER STORY

Surviving Hard Times

Page 39

Even if you know what it takes to be successful, setbacks are inevitable. What strategies can help keep your business on course when the sailing isn't so smooth? Here, you'll find out how other home-based professionals deal with tough times and how to set up a billing system, manage cash flow, price your product or service, and control overhead to avoid a business disaster. *Plus:* Nine tips for surviving a sluggish economy.

SOFTWARE

Expand into Foreign Markets

Page 45

Multilingual businesses will have a clear advantage in the coming decade. The writing is on the wall, but what language is it? HOME-OFFICE COMPUTING explores how foreign-language word processing can help your business by opening up new markets for your product or service overseas or in the United States' non-English-speaking cultures. *Plus:* A roundup of 17 foreign-language word processors.

HOW-TO

On My Own, Part V: Taking on a Partner

Page 49

This installment of HOME-OFFICE COMPUTING's special series following one person's switch from a corporate to a home-office lifestyle deals with the special considerations of adding a partner. What is it like to work with somebody else, and, more important, how do you find the right person to share your business with?

BUYER'S GUIDE

24-Pin Dot-Matrix: Great Printer Value!

Page 51

Sporting excellent output quality at a low cost, the new breed of 24-pin dot-matrix printers might prompt you to think twice before plunking down serious cash on a laser printer. The eight workhorses reviewed here, most available at less than half the cost of a laser printer, could give you the biggest bang for your printer buck. *Plus:* A comparison chart of twenty 24-pin dot-matrix printers.

PRODUCTS

Product Previews

Page 14

First looks at new hardware, software, and office products by HOME-OFFICE COMPUTING's editors. *This month:* A portable printer from Kodak, Toshiba unveils new laptops, flexible forms-processing software, Southwestern Bell's cordless Freedom Phones, a spiffy LaserJet from Hewlett-Packard, and Zenith's high-end EISA-based powerhouse.

Hardware Reviews

Page 58

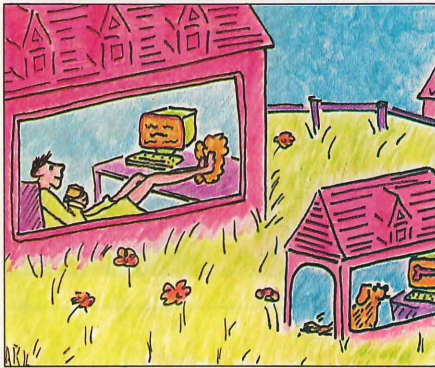
Miniguide to Track Balls: Reviews and a side-by-side comparison of six new track balls that could make your mouse look pretty cheesy in comparison—including Logitech's TrackMan, Mouse Systems' PC Trackball, and more. *Laser Printer:* Canon LBP-4. *Scanner:* The Complete PC Complete Page Scanner. *Voice-Mail System:* The Complete PC Complete Communicator.

Software Reviews

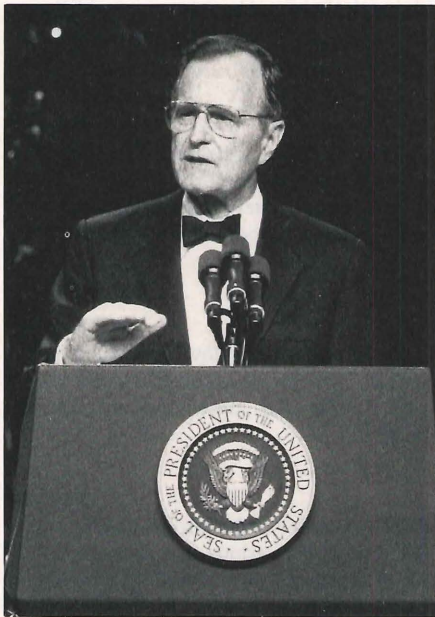
Page 63

Reviews of *Professional Write*, *WordSense*, *Legend*, and *WordMaker*—four word processors that just might fit your bill. *Plus:* Learning and leisure software reviews of *Blockout*, *2nd Math*, *McGee*, and *Gnarly Golf*.

COLUMNS



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Lynie Arden, editor, *Workstader News*; Paul & Sarah Edwards, authors and sysops of *CompuServe's Working from Home Forum*; Lis Fleming, director, *Association of Electronic Cottagers*; Charles H. Gajeway, assistant vice president, *Merrill Lynch*; Gil Gordon, editor, *The Telecommuting Review*; Tom Miller, director, *ESU Telework Group* (a division of *Link Resources*); Joanne H. Pratt, Joanne H. Pratt Associates, independent consultant.

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ShopTalk

Page 18

Planning a Mail-Order Business. Home-business consultant Joanne Pratt gives readers advice on conducting market research before starting a business, tracking sales, computerizing a large inventory, and assembling a reference library for mail-order information.

Clinic

Page 20

Answers to Your Computing Questions. HOME-OFFICE COMPUTING's editors answer readers' questions about going with a color or monochrome VGA setup, ensuring quality for floppy disks purchased in bulk, the importance (or unimportance) of hardware compatibility, and high- and low-density disk formatting. *Plus:* A painless scheme for backing up your data.

Working Smarter

Page 34

Your Card: A Marketing Tool. Your business card could be doing more for you, according to columnists Paul and Sarah Edwards. Their seven tips for revamping your card can help you come up with a design that makes a good impression.

Workstyles

Page 80

Drive Time at Home. Our telecommuting senior editor Nick Sullivan logs onto CompuServe's Working from Home Forum every morning. He claims that for a home-based business person, this on-line service represents a good way to keep in contact with peers and gain helpful advice and insight from home-business owners and experts alike.

DEPARTMENTS

Editor's Note

Page 4

Letters

Page 6

Up Front

Page 8

News, advice, tips, and a shot of humor on computing, using home-office technology, and running a home business. *This month:* An Oval Office nod to telecommuting; tips for absolutely, positively getting the most from overnight delivery; longer computer equipment warranties; a new instant-office scheme from Tandy; questions about microprocessor chip availability; and an analysis of the *Wall Street Journal* report on working from home.

Desktop Publishing

Page 22

Details Can Make or Break Your Printed Pieces: Part 1. Desktop publishing hasn't really changed the face of the printed page—the object is still to present ideas in an attractive, accessible manner. Here are tips on using some of the basics of typography—initial caps and letter spacing—to draw readers into your work.

Software Solutions

Page 24

Make Lists That Make Money. Here, you'll find out how one home-based writer not only streamlined her operation and opened new markets with a mailing list but also sold her data to other authors who wanted to expand their client bases.

Finance

Page 26

How I Keep Track of All That's Owed Me. Billing is crucial to the success of your home-based business. If you don't get paid, you don't get ahead. *Timeslips III*, an automated billing package, can help you get what's coming to you.

Telecomputing

Page 30

Targeted Mailing Lists by Modem. Going on-line to harvest leads from an electronic database can help you find potential clients all over the world. And, with the proper searching, you can put together a focused mailing list to make sure you're contacting the right people in the right places.

Business 101

Page 32

Should You Charge More for Your Services? Is it better to charge less to draw in more clients or charge more to enhance your business image? The tips and techniques here can help you figure out just how much your work is worth.

Home-Office Shopper/Classifieds

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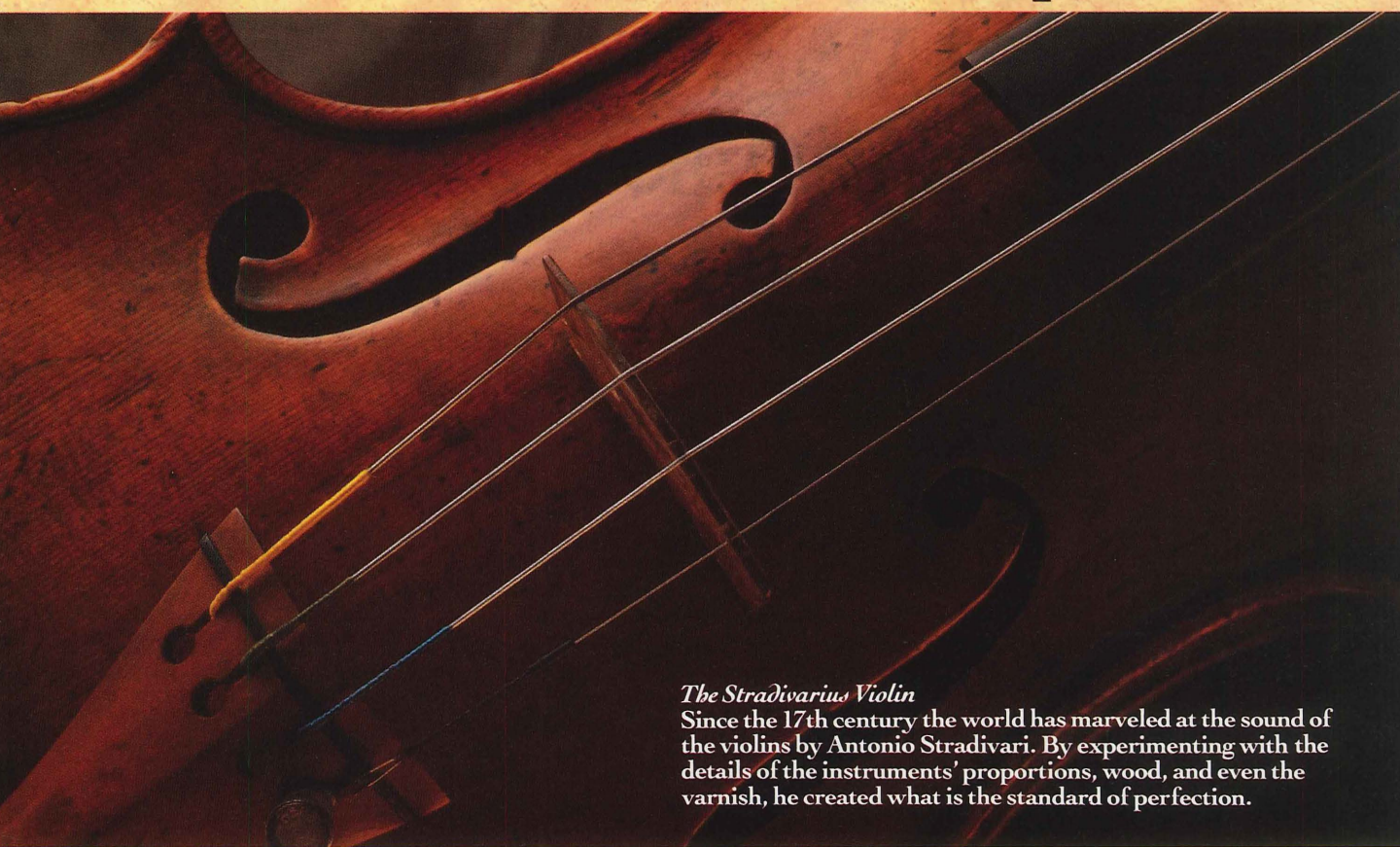
Editorial Product Index

Page 79

Advertiser Index

Page 33

Italian masters have always believed that only with a reverence for detail can there be perfection.



The Stradivarius Violin

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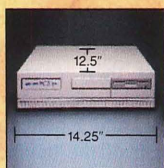
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A Shaggy-Dog Story That Wags a Personal Tale



A few months ago a reporter from a major newspaper interviewed me for a story about people working from home. Somehow our conversation took a side trip to a discussion about new findings related to decaffeinated coffee and my opinions and coffee preferences. A few days later, a second reporter called, this one specifically to ask about my attitudes toward caffeine, the origins of these attitudes, and my coffee-drinking habits.

Two things were worth noting about all this: First, my opinions about caffeine made it into print, whereas I was not quoted even once in the home-office article. (You have to see the humor in that, even though our public-relations department did not.) Second, I was quoted because I happened to talk to someone who knew someone who needed to talk to someone about what I and the first someone had talked about. That's often how people get quoted in a publication. And therein lies the tale.

When our telecommuting editor, Nick Sullivan, was last in New York, he popped into my office to talk about this month's cover story, "Surviving Hard Times." Nick felt he needed more vivid examples of how individual entrepreneurs drag themselves through the inevitable doldrums that accompany shortfalls, sluggish seasons, and sagging sales. My mental computer went into overdrive, and I plucked a couple of case studies from my cranial database.

First to come to mind was personal trainer

Maria Zanar, who rings my doorbell at the crack of dawn a couple of mornings a week, thereby guaranteeing that I'll get at least the minimum amount of exercise I need to maintain my sanity and my health. As Maria's first private client, I take special pleasure in seeing referrals mount and her fledgling business, One On One Fitness, take off.

In fact, I'm sure that watching Maria struggle to make the right business moves has been the inspiration behind more than one HOME-OFFICE COMPUTING story. As I write this, I realize that Maria has become a living laboratory for me.

Maria turned her training as a ballerina, love of exercise, knowledge of physiology, and devotion to helping others into a fitness business. Despite society's obsession with the body beautiful, she remains committed to exercise for health's sake. To work with her is to focus on long-term goals and the rewards of lifelong exercise. Nothing pleases her more than to hear that a client's doctor remarked on his or her patient's dramatically improved condition.

On the other hand, I've watched Maria's spirits sag as clients' vacations and meetings and extended business trips interrupt her schedule and erode her income, threatening her financial stability—and their exercise program. I've worried for her, wondering if she was expanding too fast, and I held my breath until she gained some of the balance in business that she has on her feet.

Maria says she's learned a lot from HOME-OFFICE COMPUTING, so it's exciting to be able to pass along some advice from her. While I know that she would like to be quoted in a health or fitness magazine for her expertise in those areas, I'm certain she never dreamed that she'd appear in a business publication. But at this point, Maria is becoming an expert at setting up a small business on her own. That's sure a lot more than you can say about me and coffee.

Claudia Cohl

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EDITOR-IN-CHIEF

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MORE INSURANCE INFORMATION

In the February 1990 issue of HOME-OFFICE COMPUTING, Corey Sandler discusses health and disability coverage for the home-office entrepreneur ("On My Own, Part II: A Web of Insurance," page 61). I agree with most of his observations and conclusions, but I feel some clarification is in order.

Sandler states, "Since I'm incorporated, my health, disability, and professional liability policies are fully tax deductible from my business income." While this is certainly true, there are some consequences to be aware of regarding these deductions.

According to the IRS, if you go ahead and deduct your premium for disability coverage, then any benefits you get when you become disabled are subject to taxes. That means if you became disabled and your monthly insurance benefit was, say, \$3,000, you'd pay out about \$840 in taxes each month.

As an alternative to this, some insurance companies offer a higher monthly benefit to people who indicate that their corporation is paying for the policy. You can buy, say, \$3,350 of monthly benefit through your corporation as opposed to only \$2,850 of benefit when you pay as an individual.

If you buy the increased benefit through your corporation, rather than deducting the cost on your corporate income tax, at the end of the year the premiums paid out should be tallied as a salary bonus to you, an employee of the corporation. That way you'll pay personal income tax on the premium, true enough; but if you become disabled, you'll have access to higher benefits than you would as an individual policyholder, and those benefits will be tax-free.

LEWIS J. MANN
Miami, Florida

February's article on home-office insurance raised many good points. There is one subject, however, on which I'd like to offer a different opinion from Corey Sandler's.

At the end of the piece he states that he based the amount of workers' compensation coverage he purchased on what was "required" instead of evaluating his coverage on the basis of how it could help him.

Workers' compensation insurance can be an excellent buy, especially for someone who often leaves home on business trips. Not only does it pay part of any lost wages, but a good policy can provide unlimited lifetime medical benefits.

For a home-based professional a business trip could include a trip to the post office, visiting with a CPA, and many other daily chores. A business errand, like driving to an office-supply store for paper clips, and a nonbusiness chore, like going for groceries,



could happen on the same trip out.

If you can relate your trips outside the home to your business, you can effectively have an unlimited, lifetime medical-care policy that couldn't be matched by any conventional accident insurance.

ROBERT S. FELTON
FELTON ASSOCIATES
Baton Rouge, Louisiana

EDITOR'S NOTE: According to the IRS and several insurance information sources we contacted, the suggestions in the two letters above generally hold true for most business situations. However, we would be wrong to recommend these approaches for everyone. Be sure to thoroughly evaluate all the consequences before altering any of your business procedures. It just doesn't pay to fool around—especially with insurance and taxes.

THERE ARE NO ACCIDENTS

I just read through the February issue of HOME-OFFICE COMPUTING and couldn't help but get a charge out of James Dunn's comments in the Letters section ("On Target," page 10) about your publication being "user friendly." His letter really hit the nail on the head.

I received my first copy of your magazine by accident about a year ago. I had just started my home-based consulting firm, and my mother wanted to give me a subscription to a computer magazine as a grand-opening gift. I don't remember which one I requested from her, but she made a wonderful mistake and signed me up for HOME-OFFICE COMPUTING.

There have been countless times since that

first issue when I've found an answer to a question that had been on my mind or a tip that's made my life easier. Yours is one magazine I won't lend to friends—I only pass along a subscription card!

Keep up the good writing and product reviews.

L. DOUGLAS THOMPSON
PROGRESSIVE IDEAS &
BUSINESS SOLUTIONS
Hopkinsville, Kentucky

THE ORGANIZED PRODUCER

As a home-based freelance video producer, I thoroughly enjoy your magazine—I've found many useful business ideas. Please keep up the good work.

Your February issue was particularly helpful in getting my office organized—even to the point where I finally bought a computer desk. However, I think you overlooked some of the best software tools for organizing a business: Macintosh HyperCard stacks.

In my business there are three keys to being organized. I use the Datebook stack to schedule production time; I track my daily progress on any given production with the To-Do stack; and I keep tabs on my clients and contacts with the Address stack.

BOB BRACKEN
BRP
Des Moines, Iowa

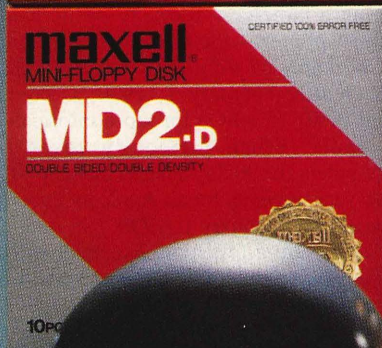
CORRECTIONS

In the March 1990 issue of HOME-OFFICE COMPUTING, the positions of the photographs of the Toshiba T1000SE and T5200/100 were swapped. The picture accompanying the article on the Toshiba T1000SE ("Toshiba's Latest, Lightest Laptop," page 18) is of the Toshiba T5200/100 and should have illustrated the review of that machine later in the magazine ("Luggable Powerhouse," page 65). Conversely and unsurprisingly, the picture appearing with the review of the T5200/100 is of the T1000SE.

Also, on page 68 in the Software Reviews section, the photograph of the Excel package, described as the "classic Mac spreadsheet," is actually taken from the IBM version of that software. HOME-OFFICE COMPUTING regrets any confusion caused by these errors. ■

HOME-OFFICE COMPUTING looks forward to letters from all readers. Please direct correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include name, address, and telephone number. Letters become the property of HOME-OFFICE COMPUTING and may be edited for length and clarity.

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THE GOLD STANDARD

EDITED BY KAREN KANE

Warranties Go For the Long Term

The computer industry has been quietly extending the length of warranties—a trend indicating that equipment is becoming more reliable.

Hewlett-Packard, for instance, is now offering a three-year warranty on its DeskJet ink-jet printers—the longest printer warranty we know of. Any HP DeskJet purchased on or after February 1, 1990, is covered. Call (800) 752-0900 for more information.

Apple, which previously covered its equipment for 90 days, has decided to offer a one-year warranty for all Apple products purchased after January 1, 1990.

Below are a few more examples of companies that have stretched the standard one-year warranty.

PRODUCT

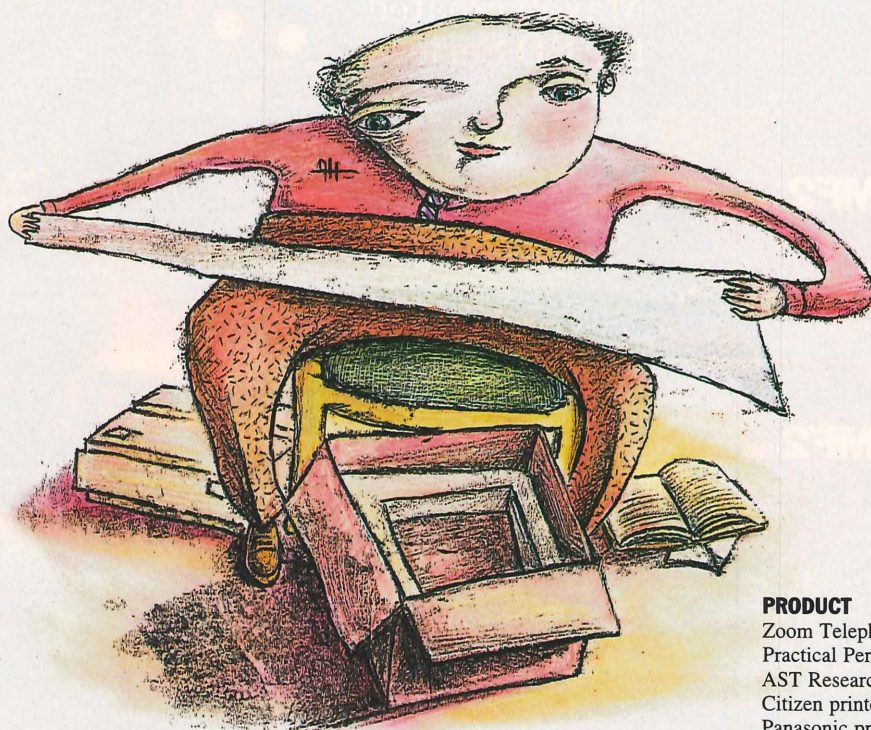
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WARRANTY

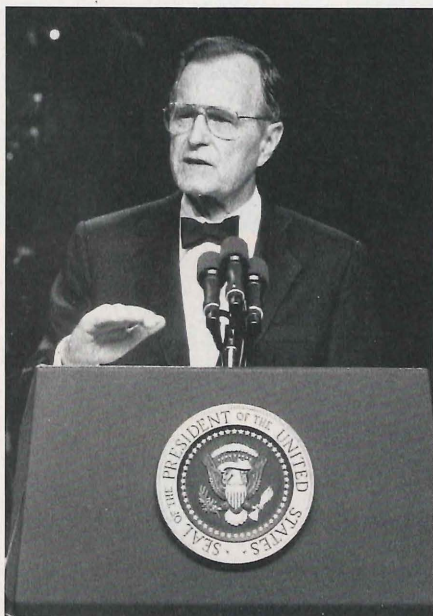
7 years
5 years
5 years
2 years
2 years
3 years
2 years
18 months
18 months

—STEVEN C. M. CHEN

ILLUSTRATION BY DAVID RICCI



Bush Backs Telecommuting



PHOTOGRAPH BY LONAL HARDING

The topic of telecommuting, never before considered presidential material, was one of the main issues addressed in President Bush's recent speech to the California Chamber of Commerce. Now that telecommuting has caught the president's eye, we may start to see new incentives for businesses to adopt work-from-home programs.

Bush called for more creative solutions to today's business problems. "Flexible workplace policies will allow you to find and keep the best talent. And one of the most promising of these new business frontiers is telecommuting."

His words drew applause from the pollution- and traffic-conscious Californians. "Consider," said Bush, that "a typical 20-minute round-trip commute to work over the course of a year adds up to two very stressful 40-hour weeks lost on the road. But if only 5 percent of the commuters in L.A. County telecommuted one day each week, they'd save 205 million miles of travel each year—and keep 47,000 tons of pollutants from entering the atmosphere. So telecommuting means saving energy, improving air quality and quality of life. Not a bad deal."

Not a bad deal at all, Mr. Bush. —K.K.

Money Back on DeskJets



The choice between a Hewlett-Packard IIP and a DeskJet printer just got tougher. Though the popularity of the HP IIP laser printer may have taken a bite out of DeskJet sales, a recently announced one-time \$150 rebate on the HP DeskJet Plus (suggested list price, \$995) and a \$75 rebate on the HP DeskJet (suggested list price, \$799) should encourage buyers. Owners of new DeskJets must return a rebate coupon (available only from authorized HP dealers through June 30, 1990), sales receipt, and bar code clipped from the shipping box by July 31, 1990. This rebate makes the HP DeskJet Plus one of the best hardware buys around.

—S.C.

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- 20MB SmartDrive™ Hard Disk
- DeskMate® Q&A Write
- Lotus Spreadsheet for DeskMate
- Two-Button Serial Mouse
- DeskMate Office/Personal Productivity Software

System includes 25-1602, 25-1043, 25-1045 and 25-1333. Reg. Separate items \$2418.75.

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Will Memory Chip Prices Remain Steady?

The prices for fruits and vegetables have been high this year because of a cold winter in the South. I'm still feeling the freeze even though the weather is starting to warm up. Unfortunately, a decreased supply of memory chips may cause similar increases in hardware costs down the road.

The good news is that RAM, which used to cost as much as \$400 a megabyte, can be found for as little as \$75. The bad news is that U.S. Memories, a joint effort among U.S. companies to combat the diminishing role of U.S. chip manufacturing, dissolved last December. To make matters worse, Japanese chip manufacturers announced at the same time a reduction in chip production. As computer applications become more memory hungry, and as laser printers grow



in popularity, we simply need more RAM chips. The old law of supply and demand may push chip prices back up.

How much of an impact do memory chips have on the price of computer hardware? Memory accounts for as much as 20 percent of manufacturing costs for a PC. An increase of \$250 in manufacturing can translate into a \$1,000 hike in suggested retail price. And lower memory-chip prices have helped bring the cost of laser printers and VGA cards down.

It may be too early to tell if chip prices will really rise, but Wall Street experts are anticipating price adjustments. For now, I'm just trying to squeeze as much juice as I can out of my precious few oranges.

—S.C.

Get More for Less from Federal Express



The phrase "I'll FedEx it to you" rolls off the tongue too easily sometimes. If your small business relies on Federal Express, these five tips will help you maximize the service so you pay less and get faster service when it counts.

1. Negotiate for lower rates. If you use Federal Express regularly, you can probably negotiate better rates by simply asking for them. FedEx competitors, such as Airborne and United Parcel Service, are eager for your business, so FedEx is often willing to cut rates in order to prevent the loss of accounts. You don't have to be doing a large amount of business to get better rates.

To learn about discounted rates, request your own account executive. One negotiating technique is to state that you've been advised to use other carriers because of lower rates but that you'd prefer to continue using FedEx—isn't there some way you

could qualify for lower rates? Unlike most giant companies, Federal Express pays a lot of attention to its smaller customers.

2. Use afternoon or economy delivery. If it doesn't "absolutely, positively" have to be there the next morning, save money by choosing the other options. FedEx now has three levels of service: Priority Overnight, for next business morning delivery; Standard Overnight, for next business afternoon delivery; and Economy, for delivery within two days. At current Priority Overnight rates, you pay \$15 for a letter-size package (or \$12 if the package is dropped off at a FedEx office or drop box). But the Standard Overnight rates of \$11.25 (or \$8.25) cut the cost considerably.

Customers report that packages that are supposed to be delivered in two days are often delivered overnight anyway.

3. Use "Hold for Pickup" service. If you are willing to pick up your package at a nearby FedEx location, the "Hold for Pickup" option lowers the bill. Not only can you save money, but the package will be ready at 9 a.m. whether it was sent Priority Overnight or Standard Overnight. The sender must supply the address of the FedEx location nearest to you.

Let's say that a company that owes you money tells you that the check will be ready at 2 p.m. today—and you need the money tomorrow. You can tell your customer that

Federal Express will be by to pick it up and to mark the airbill "Hold for Pickup" and "Standard Overnight." Instead of the package arriving by 3 p.m. tomorrow, after the end of the banking day, your check will be ready for deposit at 9 a.m. You won't have to hear "your check is in the mail" anymore!

The \$10 service fee for packages delivered on Saturdays is waived if you pick them up at a FedEx location.

4. Drop it off yourself. FedEx will deduct \$3 per package when you bring the package to a FedEx depot or drop box. Drop boxes can be found in many large office buildings. Just call (800) 238-5355 to ask for the nearest location.

5. Use the proper package size. Federal Express is very particular about the package size as well as the weight, so it's important to use the right size. Sending a two-page letter in anything other than a FedEx Letter package will cost a lot more—sometimes twice as much. Remember also that FedEx supplies its materials at no charge. FedEx Paks are oversize, strong Tyvek envelopes, which are tear and water resistant. The self-sealing boxes are high quality and would cost several dollars apiece if sold. If you have an account with FedEx (which costs nothing to open), the company will even deliver materials to your door at no charge.

—PETE SILVER

8 pgs/min,
22 internal fonts
in a personal
laser printer.



All it took was Panasonic.

Introducing the Panasonic® KX-P4420 Laser Partner™ personal laser printer.

At 8 letter-sized originals/minute, and a crisp 300 dots/inch, the KX-P4420 packs 'big department' features into a very personal-sized, very affordable package. Especially since it's up to twice as fast as other personal laser printers out there.

22 internal fonts¹ and 25 symbol sets — including legal — are standard, with a host of optional font cards and downloadable fonts available.

It's small enough to put just about anywhere you want it, and smart enough to go right to work: 512Kb of memory is standard, expandable to 4.5 Mb. The EZ Set™ operator panel and all controls are up front, and our HP LaserJet II² emulation mode offers immediate use of most off-the-shelf software.

Then there's our generous 250 sheet paper cassette, plus manual feed for envelopes, labels and transparencies, and a complete selection of accessories.

With all that going for you, we think it's time you got personal about the whole thing.

Call **1-800-742-8086** for the name of the Panasonic dealer nearest you.

*Printers, Computers, Peripherals, Copiers,
Typewriters and Facsimiles*

Panasonic
Office Automation 

¹ 11 fonts each in portrait and landscape orientation

² Registered trademark of Hewlett-Packard, Inc.

A Remarkable 45.5 Million Reported To Work at Home

The *Wall Street Journal* reported on the work-at-home trend on December 22, 1989. The headline proclaimed, "Working at home has yet to work out." The figures quoted in the article, however, support the premise that working at home is working out for more Americans than ever.

The article was based on data from a survey conducted in July 1989 by the Roper Organization for the *Wall Street Journal*'s centennial series, *The American Way of Buying*. Of the 2,002 people surveyed (a representative sampling of all labor force participants 18 and older), "only 3 percent" reported that they work at home full-time. What the *Journal* didn't say was that 3 percent of the nearly 120 million workers in this country represents 3.6 million full-time homeworkers. The *Journal* added that an additional "35 percent of respondents do at least part of their jobs at home." This brings the total number of U.S. homeworkers to 45.5 million—a figure well above any prior reported total.

By comparison, data from Link Resources, a New York-based research firm, shows 26.8 million homeworkers. Link's numbers, like Roper's, are based on a representative sampling of people, but the questions asked were different: Link is primarily concerned with people who do income-producing or job-related work at home; Roper

is concerned with attitudes about the pros and cons of working at home.

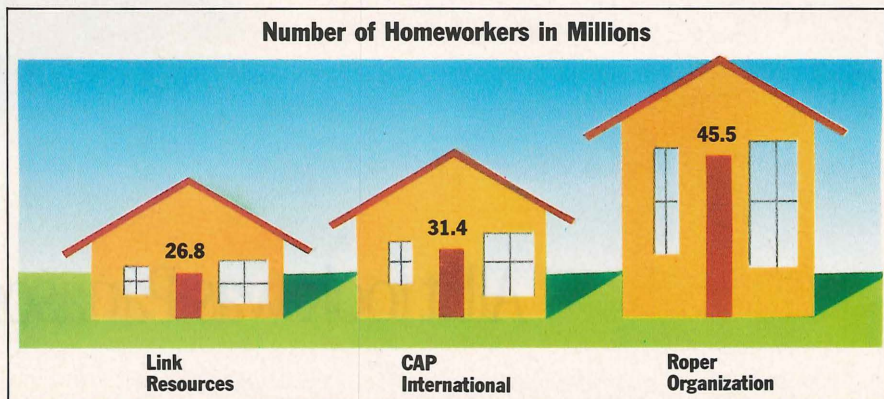
Market-research firm CAP International's data report a figure of 31.4 million—but that's a total of households, not individuals, and it represents those people who use dedicated home-office space for any one of three purposes: running a home office, using a home for work brought home from an office, or simply doing household management (paying bills or balancing checkbooks, for example).

With the permission of the *Journal*, and for the benefit of HOME-OFFICE COM-

PUTING, Roper further clarified the following additional findings of its survey:

- 10 percent of *all* job-related work done in the United States is done at home.
- 16 percent of all job-related work done by college graduates is done at home.
- 61 percent of all business professionals do some work at home, mostly part-time.
- If a business professional does any work at home, it is 15 percent of his or her total work.

It is clear from the Roper study that the trend toward working from home continues to gain momentum.



Figures from the Roper Organization's survey indicate that more people than ever are taking their work home.

Just Add a Business and Stir

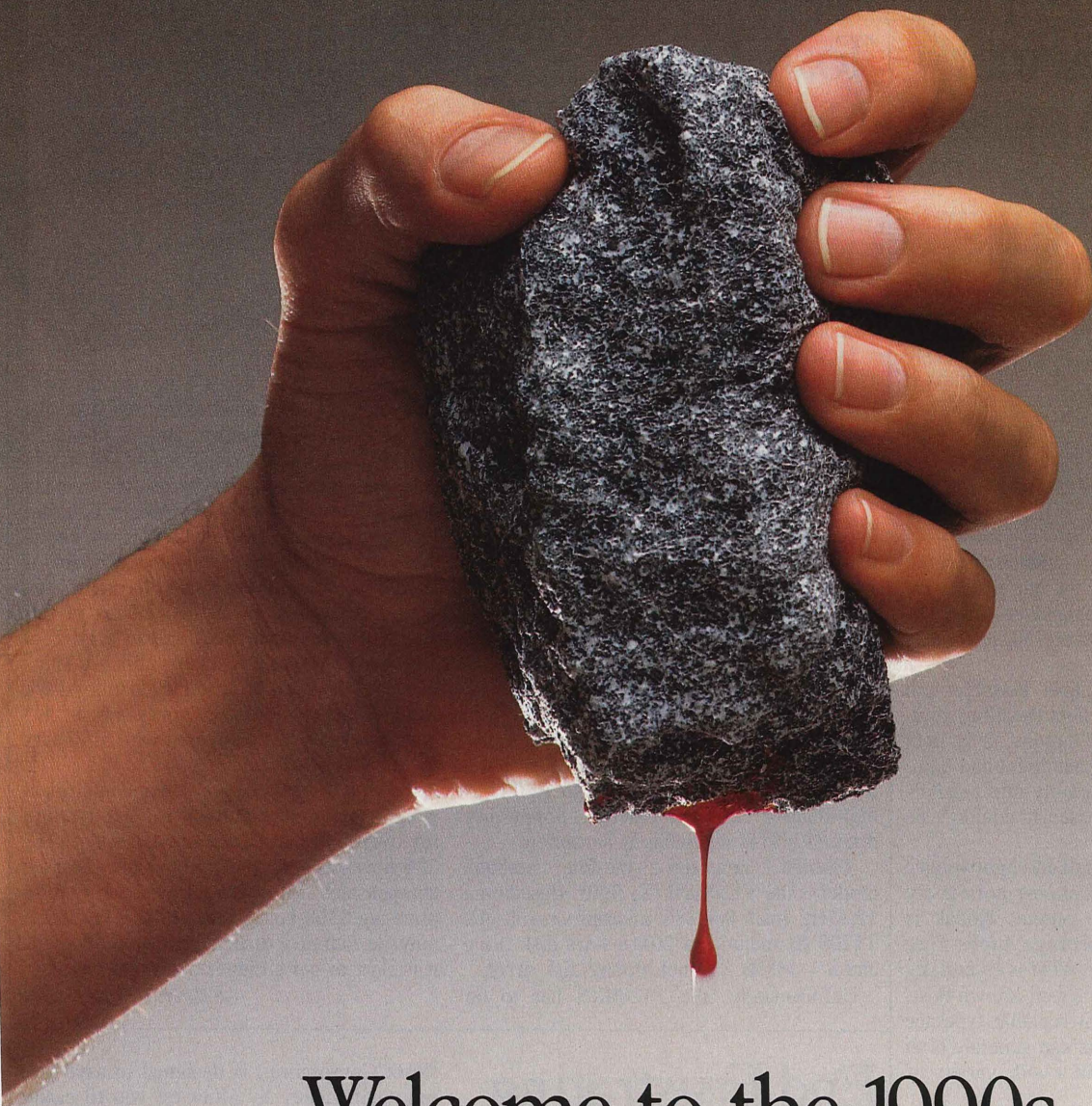
Tandy's
Instant Home Office
includes everything
but the business.



If you've always thought about setting up a home office, now may be the time to just do it. For a limited time, the Tandy Corporation is offering the Instant Home Office for only \$1,599 (\$819.75 off the suggested list price). The package includes a Tandy 1000 TL/2 286-based computer, color monitor, 20MB hard-disk drive, 3.5-inch floppy drive, two-button mouse, *DeskMate*, and *DeskMate* versions of *Lotus 1-2-3* and *Q&A Write*. To round out the package, the DWP 230 daisy-wheel printer is on sale for \$199.95 (\$260 off the regular price). The promotion, which ends May 19, 1990, is designed so that a home-based business owner can walk into a Radio Shack with a business task that needs automating and leave the store with all the tools to get started.

—K.K.

Up Front is looking for anecdotes and humorous stories about doing business with computers and other technology. If you recall an embarrassing situation with a client, receive a funny fax, or hear a brilliant voice-mail message, for example, tell us about it in 200 words or less. We'll pay \$25 for every submission we publish. We reserve the right to edit for style, length, and clarity. Write to Up Front Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.



Welcome to the 1990s.

It's a new decade, but you say there's no chance of squeezing a new computer out of your new budget.

Still, you might be able to squeeze a lot more out of the computer in front of you. Why spend a few thousand for a new one when a few hundred can remedy all that ails the old one?

All you need is the Intel Inboard 386™/PC.

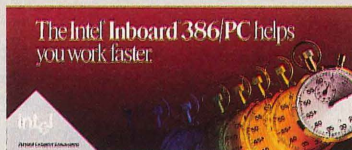
When you install this powerful accelerator in your IBM PC, XT or compatible, your DOS applications will run up to 10 times faster. Your hard disk performance will increase up to six times. And you can run the new 386 software you've been wishing you could try.

Installation is a breeze—just plug it right in. It's so easy, in fact, most customers perform the upgrade themselves.

It usually takes about 20 minutes or so.

And when you buy an Intel Inboard, you also get a full five-year warranty from the company that invented the 386 microprocessor and a hotline to Intel's technical support team.

So, next time you're sitting there waiting for an application to finish, call us at (800)538-3373 and ask for the "Welcome to the 1990s" Literature Pack. Or if you prefer instant gratification, call our FaxBack line at (800)525-3019 and ask for Document #9963. Either way, we'll send you all the information you need to bring your system into the present.



intel®

EDITED BY MARIE ALVICH-LOPINTO

Perfect Partner For the Portable Mac



The folks from Kodak's personal printer products division came by our offices recently to show off the battery-powered Diconix M150 Plus, a portable ink-jet printer for the Macintosh.

Owners of the Macintosh Portable will find the M150 Plus a perfect traveling companion for their upscale laptops. It is light (3.75 pounds, including batteries) and compact enough to fit comfortably into the Portable's black carrying case. It couldn't be more convenient.

In addition to being small and lightweight, the M150 Plus operates almost noiselessly and produces handsome output. Kodak is supplying the fontware package *Adobe Type Manager* with the printer. *ATM* is essentially the text portion of Adobe's well-known *PostScript*. *ATM* provides 13 scalable typeface outlines from which users can generate both screen and printer fonts in a wide variety of sizes.

The Diconix is not fast, but you've got to make some compromises with a printer this small. Its output is not quite as elegant as that of the Hewlett-Packard DeskWriter (also a Macintosh ink-jet printer), but then at \$699 (list) it's roughly half the price. Considering its compactness, quiet operation, and affordability, the Diconix M150 Plus could conceivably serve as the one-and-only desktop printer for Mac owners.

—EDWARD P. STEVENSON

About Product Previews: In this monthly department, you'll read about the latest hardware and software for the home office. While not complete reviews, mentions in Product Previews are based solely on editors' evaluations rather than manufacturers' press releases. Many of the products that appear here will be fully reviewed in future issues.

Toshiba's New Notebook Game Plan

Toshiba recently flew members of the press, myself included, to Houston for a major product announcement.

When Compaq introduced the LTE and LTE/286 notebook computers last fall, it set new standards for performance and power in this product category. Toshiba, once considered the leader in the notebook field, has been looking like number two lately.

The Houston (home of Compaq) press conference was clearly intended to remedy this state of affairs, so it was no surprise when Toshiba announced the addition of two new notebook computers—the T1000XE and the T1200XE—to its existing line. The 6.2-pound T1000XE (\$2,699) is based on the 80C86 microprocessor and includes a 20MB hard-disk drive but no floppy-disk drive. To compensate for the missing built-in floppy drive, Traveling Software's *LapLink* is built into ROM. A high-density 3.5-inch external floppy-disk drive (\$249) is available as an option.

Toshiba's new top-of-the-line notebook model is the T1200XE (\$3,999). Based on a 12-MHz Intel 80C286 microprocessor, the T1200XE includes a 20MB hard-disk drive and a 1.44MB 3.5-inch floppy-disk drive.

Unfortunately, the T1200XE has to be

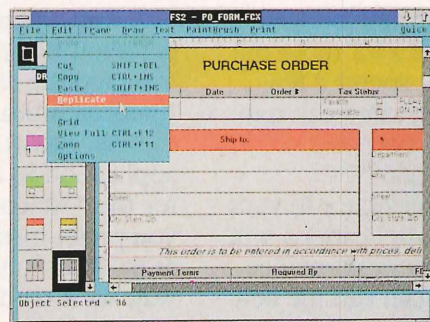


viewed more as a trade-off than an advance. The features that make it better than the competition—the screen and keyboard—also make it larger and heavier. The newly designed, sidelit CGA-compatible display (with a resolution of 640 by 400) is definitely sharper than those of other notebook computers, and the full-size keyboard is comfortable and responsive. But the T1200XE weighs in at 7.9 pounds (a full pound heavier than the Compaq LTE/286) and measures 12.2 by 11 by 2 inches. Further, the removable 12-ounce battery pack (fully charged) provides only about 1.5 hours of power (as compared with 3.5 hours for the LTE/286).

The T1200XE's larger size and additional weight will make it tough to squeeze into my overnight bag (where the Compaq LTE/286 now fits just fine). But, since Toshiba compensates for these drawbacks with a price tag \$500 below that of the LTE/286, I may be facing a difficult decision. Perhaps it is time to get a bigger overnight bag.

—STEVEN C. M. CHEN

End Frustrating Paperwork



If you love filling out forms, skip this. If not, read on; relief may be just a few keystrokes away. *FormWorx System 2 v1.0* (\$395), a new software package from Form-

Worx Corporation, is designed to save you time and money by allowing you to easily create and fill out forms on-screen.

FormWorx includes over 500 ready-made business and government forms that you can use right out of the box or with whatever modifications you care to make. This helps you get up to speed quickly.

The package runs under Microsoft *Windows* and, with mouse and pull-down menus, is easy to use. When filling out forms on-screen, you see the actual form on your display, as well as the data you're typing in. But, you don't necessarily have to type in data to fill out forms, because *FormWorx* is capable of directly reading and writing files created with *dBase III Plus* and *dBase IV*. You can use the database to collect the information that is going to end up on the forms.

If you create a lot of forms or fill out a lot of forms (regardless of how many kinds), *FormWorx* can speed up your work.

—DAVID HALLERMAN

WordPerfect and Canon...

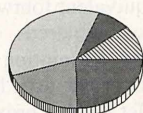
The Quarter note

Curtain Call

La commedia è finita; the performers have all gone home; it's time for those of us in administration to take our much deserved between-season's break. But before we bring the year to a close, we would like to call your attention to notes from last week's quarterly review.

Cost of good art

Right again, Finance Directors. As you predicted, there was a dreadful decline in patron contributions. Thank goodness our much needed corporate grants



Barron Fund Distribution



Contribution Levels
Director \$15,000
Esquire \$10,000
Fellow \$5,000
Guardian \$2,500
Member \$1,000
Sponsor \$500
Friend \$250

didn't falter; unfortunately, those grants didn't counteract the deficit. Our predicament, then, is to regain the individual donations plus foster a program that will bring in new donors.

Our friends in Administrative Research Services suggested restructuring annual donor requirements by adding two new categories. The Board graciously accepted this idea and has even agreed on the entry-level donations.

ARS hopes to encourage *Member* contributors to upgrade to *Guardian* thereby, more than doubling the donation. There is still debate, however, on the privileges and benefits that would accompany this new membership. We must avoid making *Guardian* attractive to our *Fellow* contributors.

The lowest entry donation, *Friend*, will be attractive to the \$25,000 to \$35,000 class which constitutes 37% of our audience but less than 3% of annual donors. The entitlement will certainly be minimal.

Revenues	1986	1987	1988	1989
Advertising Sales	890,023	944,600	1,000,975	1,266,950
Corp. Contributions	11,455,000	12,100,000	12,860,000	12,900,700
Endowments/Grants	7,000,000	7,000,000	7,000,000	7,500,000
Subscriptions/Gifts	2,800,680	2,973,485	2,695,620	2,107,950
Ticket Sales	9,275,490	8,800,230	8,999,460	9,310,050
TOTAL	\$31,421,193	\$32,818,315	\$33,556,055	\$34,093,600

Affairs of the Barron Gallery of Live Performance

Summer 1989

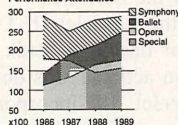
Balcony

Plaudits to the staff of Artistic Administration and those of Development and Public Affairs. Their campaign to attract a bigger audience to ballet was a huge success. With regards to patronage, it was a good year for the performing arts. We can thank public television for that.

Canyon Opera is still uncertain of Veronica Bertelli's destiny. Negotiations for her contract are deadlocked. In less hostile recruiting, though, CANOPE added sopranos Dian Call and Georgia King to its roster.

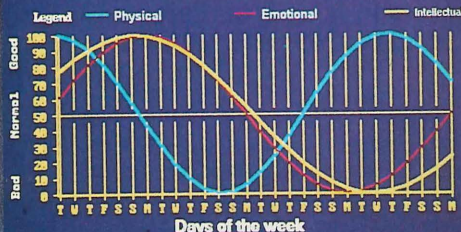
Dougan Nufer, The Mainstreet Company's principal danseur, recently won the coveted Isadora Trophy. A contract battle with his attorneys is likely to ensue. Just a gentle forewarning. Artistic Administrators.

Performance Attendance



Courtesy of Directors of Affairs

Biorhythms



Canon LBP-4

are working together to make you look better.

WordPerfect™ 5.0 software and Canon LBP-4 Laser Beam Printer are the perfect combination to transform the ordinary into the extraordinary.

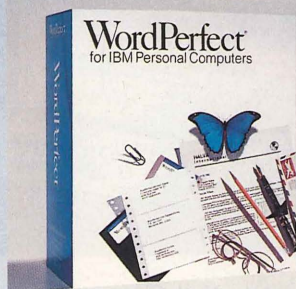
Whether it's a picture or a thousand words, WordPerfect 5.0 offers a multitude of creative ways to get your information down on paper—and the LBP-4 lets you take advantage of them, without expensive options. In addition to highly advanced word processing, the impressive desktop publishing features include text-integrated graphics, style definition, an extensive font selection and enhanced laser-printing capabilities that work with the LBP-4, beautifully.

And WordPerfect 5.0 fully supports

the compact Canon LBP-4, with everything from special print effects like scalable fonts with shadowing, outline and pattern fill, to complete paper versatility. What's more, Canon's exclusive EP-L disposable cartridge system means the LBP-4 provides virtually maintenance-free performance.

WordPerfect 5.0 and the Canon LBP-4. Put them together, and all your documents will look better than ever.

Call Canon at 1-800-441-5454 for more information.



WordPerfect
CORPORATION
CIRCLE READER SERVICE 54

FREE SCALABLE FONT CARD
With the purchase of any Canon Laser Printer from Feb. 1 through June 30, 1990! Call 1-800-167-4300 for details.

Let Freedom Ring, Cordless Style



Ah, the freedom to roam! Life before the cordless phone was filled with tangled cords and sprints from the den to the kitchen (only to find out that the phone had stopped ringing). More significant, while talking on the phone, we were physically confined to an area defined by the length of the phone cord. By now, many of us have discovered how much more we can accomplish during phone conversations—in the home *or* the office—if we're not tied down by a cord.

Recently, I got a sneak peek at three new phones from Southwestern Bell that combine cordlessness with other advanced features.

One of these, the FF 675 (\$220), incorporates an answering machine. This phone allows superconvenient call screening through the handset; you don't have to be at the base unit, as you would with a conventional telephone answering machine. The phone, naturally, has remote message-checking capabilities. This phone is one of my personal favorites.

With the double-duty FF 1750, users can dial from either the handset or the base unit, since the latter incorporates a dial pad and speakerphone. This phone sports a multitude of other features, including an intercom, a digital channel selector, and speed-dialing. It retails for \$190.

Those of you with two phone lines may want to check out Southwestern Bell's new two-line cordless model, the FF 1175 (\$180). Its features include a two-way intercom, conference calling, speed-dialing, and distinctive ringing for each line.

Look for full reviews of these phones in upcoming issues.

—MARIE ALVICH-LOPINTO

A New Frontier: HP's LaserJet III



Hewlett-Packard's introduction last fall of the LaserJet IIP—a full-featured, four-page-per-minute printer listing for \$1,500—shook the laser printer industry to its foundations. Get ready for another earthquake: HP has just announced the LaserJet III.

The new printer, which replaces the soon-to-be-discontinued LaserJet Series II, offers significant improvements at a substantially lower price (\$2,395 for the LaserJet III, as opposed to \$2,695 for the Series II).

The minute I saw the LaserJet III I was impressed; the exterior design is sleek and sexy. When I saw it in action I was doubly impressed. The LaserJet III incorporates two key features that make it better (although no faster) than its predecessor. First,

it has eight built-in scalable outline fonts (yes, you can print them as big or as small as you like). The equivalent fontware for the Series II would cost hundreds of dollars. Second, it provides Resolution Enhancement, which makes your text look much sharper. The LaserJet III also provides a full megabyte of internal memory.

The introduction of the LaserJet III was accompanied by other HP announcements: a PostScript cartridge (\$695), a \$700 price slash of the LaserJet IID (from \$4,295 to \$3,595), and a new typeface- and font-management software package called *Type Director* 2.0 (\$40). Scalable typeface cartridges will be available June 1 at \$399 apiece.

—STEVEN C. M. CHEN

Zenith's First EISA-Based Computer



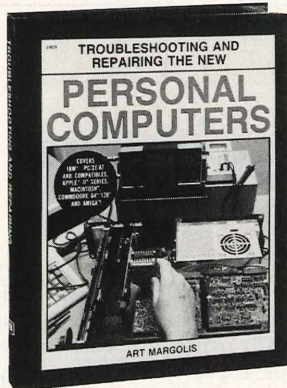
At a recent New York City press conference, Zenith Data Systems (ZDS) unveiled the Z-386/33E—its first EISA-based computer.

EISA (Extended Industry Standard Architecture) has been big news in the making for a long time now—and this is one of the first new product announcements for ZDS under its new French-based parent company, Bull—so we went to take a look.

The purpose of the new architecture is to improve computers' input-output performance (as opposed to actual computing speed). How successful is it? Consider Zenith's EISA Mass-Storage Controller, the feature that makes the Z-386/33E a stand-out. This new hard-disk controller is said to be at least 15 times as fast as today's standard controllers, giving average "seek" times of under one millisecond. This should dramatically improve performance for local area networks or other disk-intensive applications.

The performance boost does not come cheap, however. The basic Z-386/33E system (with 4MB of RAM and a 150MB hard-disk drive) lists for \$11,999.

—STEVEN C. M. CHEN



2809 \$27.95
Counts as 2



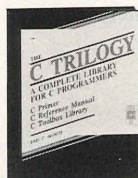
1540P \$17.95



2939P \$16.95



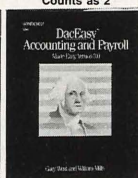
3057P \$15.95



2890P \$22.95
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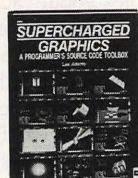
2899 \$34.95
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3204P \$21.95



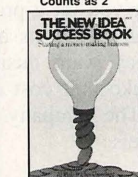
3239P \$19.95



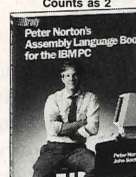
2959 \$29.95
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3049P \$26.95
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30013P \$12.95



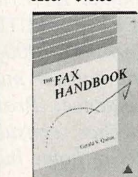
9292 \$49.95
Counts as 2



3238P \$19.95



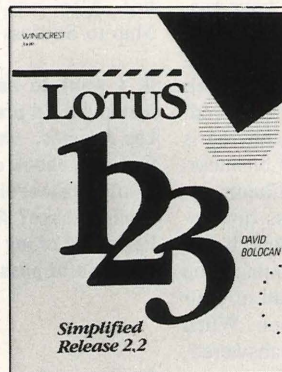
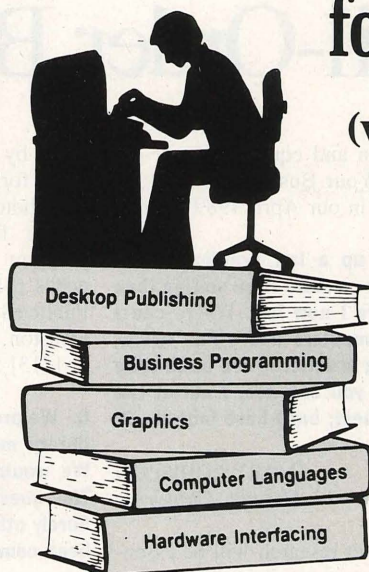
3084P \$19.95



3341 \$16.95

SELECT 5 BOOKS for only \$3⁹⁵

(values to \$104.75)



3440P \$16.95



2859P \$20.95



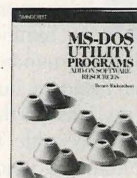
3088 \$26.95
Counts as 2



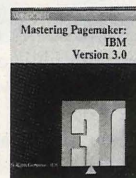
2968P \$19.95



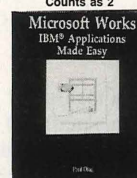
3116P \$18.95



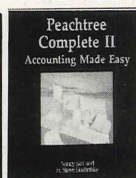
3278 \$34.95
Counts as 2



3176P \$16.95



3213P \$17.95



3305P \$19.95

When it's new and important in business or personal computing . . .
The Computer Book ClubSM has the information you need . . .
at savings of up to 50% off publishers' prices!



3109 \$28.95
Counts as 2



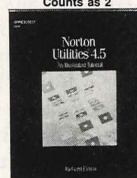
3031P \$16.95



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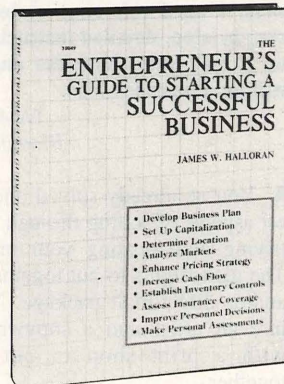
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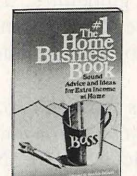
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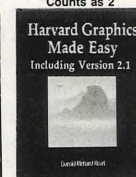
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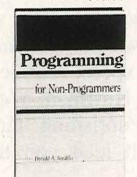
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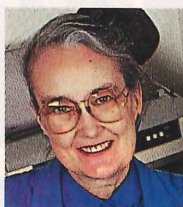


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BY JOANNE PRATT

Planning a Mail-Order Business



Are you playing hide-and-seek with your customers? I am appalled by the number of entrepreneurs who let their phones go unanswered. Even more dismaying is the number of business-

es with unlisted phone numbers. Clients expect to find you listed in business directories or at the very least in the phone book. They also want to be able to contact you during business hours by voice mail or your answering machine, if not in person. When your line is unlisted, busy, or unanswered, you are *not* in business.

Q. I am starting a mail-order business in my home. I will sell a selection of specialty items such as T-shirts, buttons, and mugs to members of my sorority. The sorority has 175,000 members in the United States and some overseas. I need reference material that gives step-by-step, detailed instructions on setting up a mail-order business and, particularly, writing a business plan.

TAMMIE G. SYKES
Bloomington, Illinois

A. You've already solved one of the toughest aspects of selling through the mail: identifying and locating your target audience. The next step is to put together your catalog and/or direct-mail package. You'll need to hire an artist and a copywriter and work with a print shop to put the package together.

Contact the post office about third-class bulk-rate mail guidelines. Do cost-benefit analyses to make sure you can charge enough for your items to cover production and mailing costs.

J. L. Simon's thorough *How to Start and Operate a Mail-Order Business* (Fourth Edition; \$42.50; McGraw Hill, New York) will provide the information you need to develop your business idea. Simon's upbeat but realistic guide to marketing by mail is crammed with valuable information. Appendices include names and addresses of mailing-list brokers, the Direct Mail Marketing Association, and other pertinent contacts. See "Growing a Business" in our September 1989 issue for mail-order tips from catalog mogul Lillian Vernon. The workbook *How to Run Your Own Home Business*, by cottage-industry experts Coralee Smith Kern and Tammara Hoffman Wolfgram (1989; \$6.95; NTC Publishing Group, Lincolnwood, IL), will lead you through writing

your business plan and equipping your office. Also, see "Your Business Plan: Road Map to Success" in our April 1989 issue.

Q. I want to set up a law practice in my home, but I'd prefer a more rural setting than Los Angeles, where I now live. Where can I find out about computers and office equipment, bookkeeping practices, and cultivating a client base? As you can see, I am at the beginning of my quest; but I have faith it will all come to pass.

MARY CODISPOTI
La Mirada, California

A. Thorough market research will be essential to establishing your client base. Start with the reference materials at your library. Analyze the demographics of prospective locations by population, age-group distribution, and income level. You should have a clear sense of what *kind* of law practice you want to open. Compare the number of attorneys with your specialty listed in the yellow pages to the total population. Visits to banks and chambers of commerce might also prove helpful in your search for clients. Once you move into your new community, attend meetings of local civic organizations regularly.

Pick up a copy of HOME-OFFICE COMPUTING columnists Paul and Sarah Edwards' *Working from Home, Everything You Need to Know to Live and Work Under the Same Roof* (Jeremy P. Tarcher, Los Angeles). And keep on reading HOME-OFFICE COMPUTING for up-to-date advice on starting and running a business, as well as choosing the best hardware and software.

Q. I want to track sales of my magazine articles and photographs. I need to know how much money a particular article or photo makes and how many sales I make to a particular client. A local computer store clerk suggested Act, Sales Tracker, and Who-What-When. Are there other programs that track sales?

CHERYL KOENIG MORGAN
Homestead, Florida

A. Sales-tracking programs such as Act, designed to facilitate telemarketing, would be overkill for you. You could track the information you need more easily by using a checkbook program such as *CheckWrite Plus* (\$50; Meca Ventures, Inc.) or *Quicken* (\$60; Intuit, Inc.). When you set up your budget categories, itemize by client and also by article or photograph. You can sort re-

ports by article, by client, or in various other formats. Do you have many articles and photos? If so, you might prefer to use a simple flat-file database. The shareware program *File Express* should handle your needs (\$10 plus \$4 shipping and handling; Public [Software] Library, P.O. Box 35705, Houston, TX 77235-5705; [800] 242-4775 or [713] 524-6394).

Q. We provide artwork from our 16,000-slide library mostly to educational organizations. We would like to computerize our catalog. The question is, How do we go about it? Surely other catalogs from the art world have been computerized!

CLAIRE F. RAICK
PROJECTS +
New York

A. A home-based business that sells to the Smithsonian Institution has just the solution for you. Image Management Corporation (P.O. Box 10862, Denver, CO 80210; [800] 728-8521 or [303] 692-9261) offers a scaled-down version of a cataloging program developed for universities and libraries. A bargain at \$195, *Personal Slide Run* keeps track of up to 50,000 slides. You key in title, description, and other data, and you can store notes about each slide in a handy memo field. You'll save hours by taking advantage of the program's library of 1,200 artists. If you have a slide of Munch's *The Scream*, for example, the library will automatically fill in many of the fields. There are no user-defined fields, but Image Management Corporation will customize the software for you (at a programming rate of \$50 per hour). Like its art-gallery customers, you may want business-related fields for things like unit cost and total sales for each item. The company also supplies tractor-feed labels.

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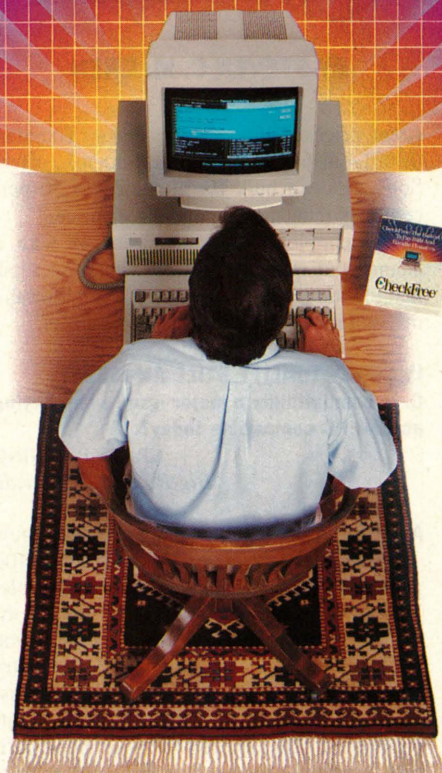
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PC Magazine, Best of 1989 Awards
January 16, 1990 issue

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Robert Cullen, Home Office Computing

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Answers to Readers' Questions

BY STEVEN C. M. CHEN

COLOR VS. MONOCHROME

Q. What's the difference between color and monochrome VGA monitors when it comes to application software for the PC?

PAUL MOBLEY
Cynthiana, Kentucky

A. The main difference, of course, is that one displays color and the other doesn't. If your computer supports VGA (Video Graphics Array), a VGA monochrome monitor will display color in different shades of gray. Both color and monochrome VGA monitors display the same maximum resolution of 640 by 480 dots. Most software is more fun to look at when it's displayed in color; but for pure text applications color is not critical.

VGA monochrome monitors will not work with pre-VGA standards (such as EGA and CGA), but regular monochrome monitors will (although you can't display graphics unless the display card supports Hercules graphics).

When buying a color monitor, make sure the dot pitch is 0.31 millimeters or lower. If possible, test the monitor before buying.

QUALITY OR QUANTITY?

Q. I bought some generic 5.25-inch and 3.5-inch disks in bulk through the mail and have found a few bad disks in the batch. How can I be sure of quality in the future? How do these disks compare with brand names in quality?

GREGG MATSUSHIMA
Honolulu, Hawaii

A. The biggest difference between generic and brand-name disks is the packaging. However, the quality of bulk disks depends on where you purchase them. Unlike the brand-name disks with labels, bulk disks can come from anywhere and vary in quality. Good quality bulk disks cost only a few cents more per disk than the cheapest disks, and they are about half of the street price of brand-name disks. You should never have to pay the suggested list price for any disk.

We used to encounter similar disk problems in our office until we switched to a different supplier. Lyben Computer Systems ([313] 589-3440), based in Troy, Michigan, is one of our regular disk suppliers. Lyben is reliable and offers disks in bulk (in traditional black and colors) for about half the

street price of brand-name disks. Telemart ([800] 426-6659), located in Phoenix, offers Sony disks in bulk for about 25 to 50 percent less than the average street price.

For people who don't want to take a chance but still like to find a bargain, disk manufacturers such as Fuji offer rebates and discounts if you buy packs of 50 disks.

IS COMPATIBILITY STILL AN ISSUE?

Q. Is compatibility a major issue when buying an IBM PC compatible today?

CRAIG BANNING
Big Pine Key, Florida

A. Not any more. It was a big problem a few years ago, when many PCs were not 100 percent software or hardware compatible. You never really knew whether your software and peripherals would work until you tried them out. Now, thanks to industry standardization, there is little if any guesswork involved. Bugs in the Basic Input Output System (BIOS) used to cause incompatibility, but over the years manufacturers have perfected BIOS routines. The chip sets that come on the motherboard have also become standardized, so manufacturers are all working with the same basic set of supporting chips, meaning less variance among computers.

RIGHT SIZE, WRONG DENSITY

Q. I'm having problems formatting disks on my IBM AT with my new 1.44MB 3.5-inch floppy-disk drive. I get the following error messages: "Invalid media or Track 0 bad—disk unusable" and "Format failure."

What's wrong?

TODD HOO
Saratoga, California

A. It sounds as if you are trying to format a low-density disk with a high-density drive. High-density disks have an additional index hole in the plastic and are marked "HD." Try formatting the low density disk (720K) with the following command: Format B:/T:80/N:9.

If you still get the same message, your disk is bad. Also, in your system setup routine, make sure that you indicate that you have a high-density drive. In the future, make sure that you purchase high-density disks to avoid this problem.

HELPFUL HINT

A BETTER BACKUP?

We all know the importance of backing up our hard-disk drives, but how many of us actually do it on a regular basis? I've done it only five times in the few years I've used them. Backing up is bothersome and time-consuming. Software utilities help speed things up, but hard drives are getting bigger and bigger.

Here are a few tips that have helped me ease the backup blues.

- I don't save any important data files to my hard disk. If I am working with files that demand a hard disk for better performance (such as database and desktop-publishing files), I copy them to a floppy at least once a week.

- Thanks to the advent of high-density floppy-disk drives (either 5.25-inch 1.2MB or the 3.5-inch 1.44MB), I copy every application that's on my hard disk to a high-density floppy. Most applications fit on one floppy, but if they don't, I just pare them down to fit by removing the help files, sample files, and spelling checkers.

What good is this when my hard disk fails? For one thing, I don't have to deal with the problem right away. I can continue to work by loading the application from a floppy and worry about reformatting the drive and reinstalling the software when I have time. If I only had a backup of my whole hard-disk drive, I would have to reformat the drive—a time-consuming process. And since some applications require you to install the programs before you use them, the original disks aren't as useful as my copies of the installed version.

It's still not a bad idea to back up the entire hard-disk drive, but I'm much more likely to stick to these simple routines than to do a full-fledged backup.

—S.C.

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Details Can Make or Break Your Printed Pieces: Part 1

BY STEVE MORGENSTERN



do not take the power of desktop-publishing (DTP) software for granted yet, and I'll be surprised if I ever do. Maybe that's because I know the way publishing used to be done or, more specifically, the way I couldn't do it.

For example, when I worked as a computerless book editor, asking to wrap text around an irregularly shaped image was asking for trouble. It meant somebody in the art department giving detailed instructions for the wrap to a typesetter, paying substantially extra for the custom work, and rarely having it come out right the first time.

THE TRICK IS KNOWING HOW

Now, with most DTP page-layout programs, a host of professional design features are at hand. For example, when I want to wrap text around a graphic, I scan in the image, see picture and text on-screen, make any necessary adjustments, and quickly print working proofs on a laser printer.

The same holds true for other effects that once involved time-consuming hand labor, such as beginning a story with an oversized capital letter, or placing a highlighted block of text in a drop-shadowed box, or using solid or tinted bars to add shape to a layout. Page-layout software gives you the power to add spice to your design without wasting time. And unless you're much more jaded than I am, using that power is fun. The real trick is knowing how to use these efficient features to create more effective layouts, not just to show off the neat tricks you can perform with your computer.

This month and next I'll discuss several design elements you might incorporate using even moderately priced DTP software. I'll also offer tips on the role these elements play in good design and hints on making your version of these effects look as professional as the traditional variety.

STEVE MORGENSTERN sacrificed his columnist's photograph this month for an illustrated initial cap.

DRAWING YOUR READER IN

There's nothing new about using oversized capital letters as a design feature. The medieval scribes added extravagantly beau-

back to medieval days: using illustrated letters as initial caps. There are many striking, copyright-free examples of illustrated letters available in clip-art books and disk-based

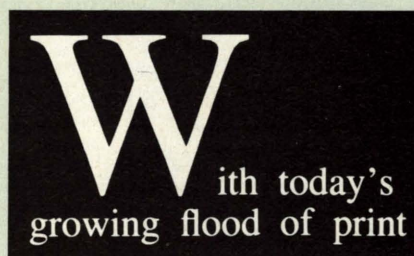


Figure 1. There are two styles of large initial capital letters: raised caps and drop caps.

tiful miniature paintings to ornament the first letter of sections in illuminated manuscripts. Incorporating large initial capitals in more mundane publications is still a wonderful way to break up copy-heavy material with bright visual highlights.

Initial caps turn typography into illustration. They are also functional, leading your reader's eye directly to the beginning of a section.

You will sometimes see an initial cap positioned with its bottom aligned with the baseline of the first line of text and its top in the air, called a raised cap. Often, though, designers handle an initial cap more elegantly by indenting several lines of text from the left margin and tucking in the oversized letter—a treatment referred to as a drop cap (see Figure 1).

When choosing a typeface for an initial cap, your safest bet is a larger size of the body face—usually the height of three lines of body text and sometimes bold. However, this rule is not absolute. You might, for instance, use a sans serif initial cap in a serif text setting (particularly if you are using sans serif headline type).

Printing initial caps in color highlights them. However, colored caps may attract too much attention in a sparsely illustrated publication; but they work well in a layout with other colorful artwork.

Still another possibility hearkens right

clip-art collections.

A few DTP programs, such as *Ventura Publisher*, will place initial caps automatically, but most require that you adjust the positioning manually. There are three key alignment points to note: The initial cap must always hit the left margin and the bottom must line up with the baseline of the appropriate line of text (first line for raised caps, the appropriate indented line for drop caps). If your drop caps extend above the level of the surrounding text, similar to raised caps, they need to be large enough so that it's clear that the effect was intentional and not merely a failure to line up the top of the drop cap with the top of the first line.

Avoid leaving excessive gaps between the body text and the shape of the initial cap. If the capital letter has a slanted side (A, V, W, for example), adjust each line of body text horizontally to leave a consistent space between the side of the initial cap and the beginning of the text line. There is an exception to this rule: If the letter is a word in itself (the article A, for instance), then leave its rectangular space alone.

PROFESSIONAL-LOOKING TEXT

Kerning and tracking are both terms for controlling the spacing between letters. Tracking is the space consistently placed between individual letters in a block of text. You may not find tracking in your DTP

software manual; adjusting this space is occasionally called condensed or expanded spacing, or sometimes it's lumped under kerning.

More accurately, though, kerning refers to the spacing between particular letter pairs whose shapes leave unsightly gaps unless they're tucked closer together (kerned). For example, look closely at the way the letters AT stand next to each other. Placing the left edge of the top of the T to the right of the bottom serif of the A leaves a lot of white space—the letters don't hold together properly. To solve this graphic flaw, we kern the letters, moving them closer so the bottom of the A tucks under the top of the T. Some other letter pairs that typically need kerning include AW, Av, OX, Vo, xc, and many more (see Figure 2).

Computer typefaces have tracking and kerning values built in, so that a lowercase o, for instance, would automatically tuck under an uppercase V. For body text, these default values are usually good enough, although you may want to experiment with modest adjustments.

When you need to set larger type for headlines, take the time to adjust the letter spacing manually. Large type typically calls for more attention to kerning than body text does. Gaps and uncomfortably close positionings in headline type are clear indications of type set by an amateur.

Spacing your type is not simply a mechanical process; it involves an aesthetic judgment. Tightly set type sends a message—it appears darker and more urgent. Take a close look at the display type in magazine ads and book jackets and you'll often find the tracking set to "TNT" (tight

Page-layout software helps you add spice to your design.

1989 issue of their *Font & Function* type catalog: "Try looking at your text while it's turned sideways or upside down." Unsuspecting onlookers may think you've lost your marbles, but getting a new slant on

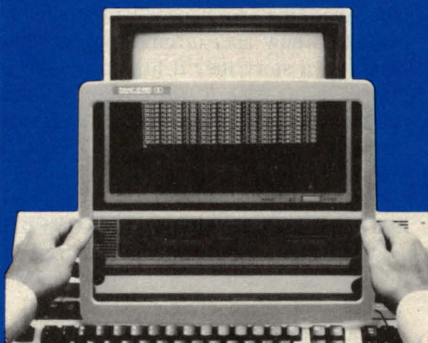
your page works.

A final note about this or any other task where you're judging spacing with a critical eye: Rely on a printed proof and not on the on-screen image. Your printer has a much higher resolution than your monitor, and the differences in spacing between the two can be striking.

COMING UP . . .

Next month I'll look at the many ways you can employ lines and boxes to create logical, graphically pleasing sections within publications; and I'll consider the pros and cons of wrapping text around graphics. ■

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Figure 2. Kerning draws together letter pairs (such as Yo, bottom) for a high-quality look.

but not touching). Overdo TNT text, though, and your text may appear intimidating; and readability suffers.

It can be tricky judging whether text is properly spaced when you're reading it. The meaning of the words influences the way you perceive them. That's why I like a tip offered by Adobe's designers in the fall

Make Lists That Make Money

BY LINDA STERN



Profits Swell When You Use Database Mail Merge to Sell Your Work

It's true, direct mail works.

Not only can you use it for selling magazine subscriptions, time-shares, home-equity loans, and carpet cleaning—it seems direct mail works for pitching articles to newspapers, too.

I expanded my independent writing business—and even started a small business on the side—once I began to use my database software to list possible newspaper markets for articles and applied some basic direct-mail techniques to that list.

Now not only am I selling more, and more varied, articles, I'm also selling my list of newspaper markets to other writers and trying to decide just how much of my time this database business should take up. Instead of my usual decisions about which word to put where, I'm making decisions about where to place advertisements and how to mail disks.

ONE WAY WRITERS SELL WORK

It's worth explaining some techniques by which independent writers sell their work. A writer typically writes a magazine article only after an editor commissions it. Then the writer generally guarantees the magazine the right to publish the piece without it cropping up in competitive publications.

But newspaper editors don't have the time or patience to read proposals and commission articles. They don't pay as much as magazines, either. On the other hand, they don't care too much about exclusivity. If a newspaper in another locale runs the same article they do, it's no problem because most of their readers won't see the other paper anyway. Newspaper editors, particularly in the food and travel sections, buy lots of freelance work if it's put right in front of them.

So the best technique for selling to news-

papers is to submit a completed manuscript simultaneously to several papers in different regions with the expectation that you'll sell the same piece to more than one paper.

That's called self-syndication, and it's ideal for the beginning writer trying to get published, the experienced writer wanting to shift to a new area of coverage, or anyone who has a story they'd like to get out in a hurry. In my case, I was already a successful business and finance writer, but I wanted to branch out into some travel, food, and "fun" writing.

WOULDN'T WORK WITHOUT A COMPUTER

Without a computer and database software, I never would have considered doing a self-syndication project. The logical way to make self-syndication work is by creating a list of editors that you mail-merge with submissions, cover letters, and mailing labels. Putting together such a project entirely by hand would be too time-consuming to ever be practical.

I began at the library, where several directories produced the names of the nation's daily newspapers. Already, the idea was forming in the back of my mind that if this experiment worked, I could sell the list on disk, so I decided to get the editors' names without copying them from a directory. There were two reasons for that: First, I wanted to make sure the list was as up-to-date as possible; and second, I didn't want to violate anybody else's copyright if I did go on to sell the list.

So I hired a young man to call newspapers and compile the following information: the names, addresses, and phone numbers of each paper along with the names of the food, travel, feature, opinion, and health-section editors. Two weeks and almost \$200 in wages and long-distance phone calls later, he was done and I started entering the information into a database.

SETTING UP MY CONTACT LIST

For most computer tasks, I use an integrated package, Microsoft *Works*, simply because I can get nearly all my work done with an all-in-one program. While not complex, the *Works* flat-file database lets me merge data fields with its word-processed documents—and that was the key for what I wanted to do.

Using *Works*, you create a database that looks like a grid, with numerous fields to describe each record. Since the program is integrated, the database links to the word processor; information can be transferred easily from one format to the other. And you can choose individual database records on the basis of up to 12 selection criteria, such as "State equals CA" for just California newspapers or "Zip Code is less than 10000" for newspapers located in New England and New Jersey.

I set up my newspaper database so that the primary entry for each record was the newspaper's name. I created separate fields for each paper's phone number, street address, city, state, and zip code. In addition, I attached five fields to list each of the section editors.

Meanwhile, I had written a food story about my recollections of Passovers past that included my recipe (an excellent one, if I might interject) for matzo ball soup. I decided to test my new database's usefulness and learn to operate the *Works* mail-merge capability by submitting the matzo ball article to food editors in time for Passover.

MASTERING MAIL MERGE

I appended a new field to my database, titled it "Matzo Ball," and went through the list, putting a Y under Matzo Ball for every paper I thought might buy my story. I made sure that I didn't flag two papers in the same city. Then I told the software's selection function to pick out only those records that had a Y in the Matzo Ball field ("Matzo Ball equals Y") and prepared a merged mailing to those papers.

Mail merge, if you're not familiar, typically combines information from a database list with a word-processed document. Done properly, mail-merged documents are seam-

LINDA STERN wrote "How I Organized My Tax Records with a Spreadsheet" in the March 1990 issue.

less, unlike the direct-mail letters we've all received where the merged data appears in a different type style than the rest of the letter. You know the kind: "Greetings **MR. LINDA STERN**. Do you need replacement windows for your lovely home on **HICKORY AVENUE**?" Instead, with the system I used, the recipient has no way of knowing that the letter is a form merged with a mailing list.

For the matzo ball package, I wrote a cover letter to the editors that explained my manuscript and offered my hopes that they would publish it. I printed the letter as a merge file, so that 60 pages spit out, each addressed to a different food editor by name. I also went one step further, merge-printing the first page of the manuscript so that my promise of exclusive one-time rights carried the name of the city to which that particular manuscript was addressed. Then I photocopied the rest of the manuscript and collated the mailing labels, envelopes, cover letters, first pages, and manuscripts—so that the right letter appeared on the right manuscript in the right envelope—and it cost \$75 to mail the 60 packages. I understood why a colleague referred to my technique as coming from the "you may already be a winner" school of journalism.

Two papers picked up my story—the *San Diego Union* and the *Des Moines Register*. I got two nice clips, which I sent to my mother, and doubled the money I paid to mail out the package. That wasn't a lot, but it proved that my system worked.

SELLING DATABASE INFORMATION

By that point, I was very interested in my database and not so interested in pursuing the travel and food writing that had prompted me to develop it.

I talked about the list to writing colleagues and discovered that people were interested in buying it. I decided to charge \$30 for the database, figuring that would more than compensate me for my work developing it, while still being reasonable enough for the limited budgets of most writers I know.

The list was already formatted for *Works* on the Macintosh, and I also saved it as an ASCII text file with tabs between fields and returns between records, so that it could be used by any Mac word processor or database.

But most of my colleagues owned IBM PC-compatible systems and needed the list in a different form. *WordPerfect* seemed to be the program most were using, so I imposed on a friend who has lots of computer equipment and the know-how to convert the data from a Macintosh to MS-DOS system without retyping it. To save time and work for *WordPerfect* users, he formatted one copy of the list as a "secondary file" with fields and records already coded for merging

into "primary files," or form letters. Now the disk was available in a *Works* format and in text for Mac users and in *WordPerfect* and text for the DOS world.

I advertised the database in the local writers' journal and received about 10 orders. Each order involved a lengthy phone conversation with the prospective customer. Meanwhile, I invested in disks, labels, mailers, and postage stamps, and I addressed and stuffed the envelopes by hand. Hardly the way to run a profitable mail-order enterprise.

But it was sort of fun. I started researching other advertising venues, created a second database to track customers, and set up a spreadsheet to tally income and expenses. To get advice, I logged on to the public-relations and journalism special-interest forums on CompuServe. I got several orders that way, too, as well as suggestions to expand the database to include business, photo, and Sunday magazine editors.

I lost money on an ad in *Writer's Digest*, but gained several "free orders" when a press release was picked up by a writers' newsletter. As of today, the whole project is about \$175 in the black, not counting revenues from selling my matzo ball soup story and a few other articles I've sent out.

NEVER GIVE UP

It's now decision time. I could let the project go, keep using the list privately, and try to remember where I spent that \$175. Or I could keep going with the database—updating, expanding, and publicizing it as a tool for writers and for my own public relations.

Quit while you're ahead, my mind tells me. But last week I paid \$100 for an advertisement in a writers' directory, so I guess I'm not giving up.

Even if I never make any real money on this project, it's worthwhile. I've learned how to mail-merge and taught this technique of self-syndication to students in my freelance writing class, who have used it to sell pieces of their own. I've met some delightful customers, who have become great sounding boards, sources of fine ideas, and, in a few special cases, close friends. I've also picked up a smattering of knowledge about running a "goods" business instead of a service enterprise.

And last, but not least, I've taught at least a few people in Des Moines and San Diego how to cook matzo ball soup. ■

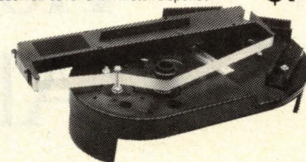
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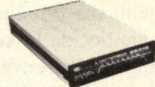
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How I Keep Track of All That's Owed Me

BY EDWARD MYERSON

Timeslips III Reviewed

If you're searching for a system to manage your business or professional time and expenses, take a long look at *Timeslips III*. Whether you bill by the hour—as most professionals do—or charge your customers at standard rates for different jobs—like repair shops and many one-person operations—the program can be a big help.

KEEP IT ONLY IF YOU LIKE IT

My wife, Priscilla, and I are CPAs who operate an accounting practice from our home as an adjunct to full-time jobs. We used to track the time spent on clients' business on slips, often scraps, of paper. Putting our bills and statements together was a lengthy chore, and we frequently ran into ambiguities and uncertainties that had to be resolved, at our expense, in favor of the client. Because of the costly time and lost revenue, I started to develop a bill-tracking system with a conventional database program. While I was still developing my own system, a friend told me about *Timeslips*.

It seemed like a good deal—the program is sold with the kind of money-back guarantee you could get only with software. It works this way: As purchased, the software is completely operational and fully featured, except that it is enabled for only 25 "slips." The slip is the basic record, like an index card, into which you enter data (see figure). If you don't like the program after working with the 25-slip sampling, return it. But if you decide to keep it, open the accompanying sealed envelope containing a code that lets the system accommodate its full capacity of 32,000 slips.

Half an hour with 25 slips convinced me. Here was a structured system for gathering and managing our billing information—from recording time spent on clients and its purpose to preparing bills, tracking accounts receivable, and providing statistical records on time, accounts, and payments. I opened the envelope.

A PREDESIGNED DATABASE

Timeslips III proved to be a well-designed

EDWARD MYERSON is a Virginia-based accountant and former employee of the Small Business Administration.

You enter data into *Timeslips III* on a slip, a form like an index card.

special-purpose database that's flexible enough for many types of operations. The software tracks the amount of time spent and charges generated

- by each *user* (accountant, attorney, or auto mechanic, for example);
- doing each *activity* (preparing taxes, writing a contract, overhauling a transmission);
- for a particular *client* (Larry Lucre, Sue Honest, Justin Carr).

If desired, an activity on a slip can be more closely defined as a *matter* (1989 returns, real estate deal, '57 Chevy).

The software is also flexible in its language: The italicized terms above are simply default labels and may be changed to ones that are more descriptive or suitable. For example, user can be changed to accountant (that's what we did), activity to task or stage, client to account or customer, and matter to project or job code—or any other term.

Once data is entered on slips, you retrieve it through a rich blend of reports—from bills to clients and reports on costs and revenue (by user, client, or activity) to aged accounts receivable schedules and variance from expected or standard costs. By far our most useful reports have been automatic generation of bills to clients and detailed hard copy of backup data, which we keep in each client's file.

GETTING DATA IN, PULLING DATA OUT

The Mac version of *Timeslips III* comes in three parts: a desk accessory (DA) that

Timeslips III

VERSION REVIEWED: 1.1h (Macintosh)

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; hard-disk drive; DOS 2.1 or higher. 1MB Macintosh; two drives; System 4.2 or higher

PUBLISHER: Timeslips Corp., 239 Western Ave., Essex, MA 01929; (508) 768-6100, (800) 338-5314

PRICE: \$300

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★

SUPPORT: ★ ★ ★

displays the slip input form, an alternative application version of the form for use with MultiFinder, and TS Report, the report generator. (EDITOR'S NOTE: The MS-DOS version offers a memory-resident mode for entering data that's similar to the Mac's DA.)

We accumulate billing expenses in two ways: First, when sitting at or near the computer, working on client business, we call up a slip input form, choose which accountant, task, and client to bill to, and start the timer. Automatically, the expenses grow, based on the hourly rate set previously, even while we work with another program. Should a phone call interrupt work, we can stop the timer with a click and, if the call is from another client, create a new slip and start the timer for that business. Second, when working away from the computer, we fill in a form photocopied from the *Timeslips* manual that looks much like an on-screen slip. Then we enter the necessary data into the program the next time around.

We generate bills by selecting the software's summary billing default. For clients who ask for it, we include a detailed listing on each bill that shows all the slips that make up the bill, and for each slip, the user who performed the service, the date, and the activity—very professional. We also use billing rates that vary with the services performed; for instance, a consultation costs more than preparing a state tax return.

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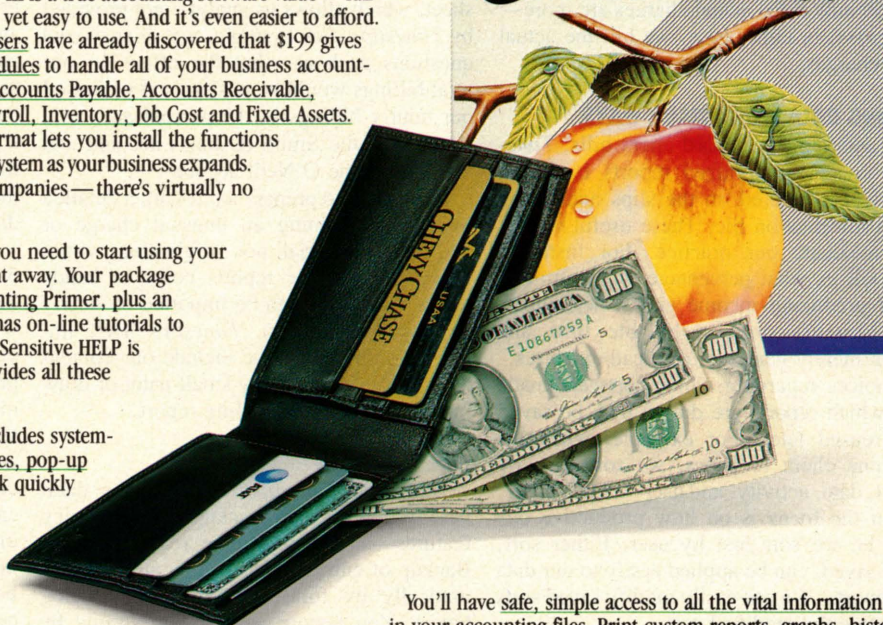
Simple to Use. Peachtree Complete III includes system-wide features, such as scrolling reference tables, pop-up windows and short-cut keys, to help you work quickly and efficiently.

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trate, consider a flat rate of \$1,000 to prepare a nonprofit organization's corporate tax return. When we specify the rate as absolute, we bill \$1,000 regardless of the actual time charges. When the flat rate is minimum, we bill \$1,000 only if the actual charges are less; when maximum, we bill \$1,000 only if the actual charges are more—otherwise, in either case, we bill the actual time charges.

MAKING DATA WORK MANY WAYS

In addition to standard client bills, *Timeslips* creates customized reports based on data we've entered on the slips and in the client information file. These useful reports help evaluate our practice. For instance, they tell us what percentage of our time is spent producing income and which clients and activities produce billable time and which merely generate overhead expenses.

Choices regarding which sorts are made and which reports are drawn may be saved and reused later. For example, when we examine client revenues, we sort slips by client, date, activity, and user—in that order. When the focus is on how productive our time is, we sort first by user. Either sort, once saved, can be applied easily to our data for reports. We can easily modify saved sorts and store the modified sort.

Reports may be viewed on-screen, print-

ed, or saved to disk. When viewed or printed, reports can be either text or pie and bar graphs. (We find graphs to be particularly useful in showing the spread of revenue among clients.)

When saved to disk as ASCII text files, the reports can be opened in our spreadsheet, which allows us analysis not provided by *Timeslips*. For example, we've answered questions such as what the effect on our total billings would be next year if we raised our hourly billings by 15 percent and, as a result, lost the Smith & Jones account and one-half of the O'Neill account.

If we wish to prepare a bill with a detailed message explaining an unusual charge or add other material not originating within *Timeslips*, text-file reports come in handy again (since they can be imported by nearly any word processor). *Timeslips* itself imports graphic data—we include our company logo (it could be any small paint or draw image) on the client billing report.

FINE FEATURES

Built into *Timeslips*, unlike many database programs, are backup and archiving features—and they can be real lifesavers. Backup of current data is done almost automatically by following choices in dialog boxes. You restore any backup simply by selecting it as the resident file (the file that

Timeslips III regularly uses). Once data is no longer current—bills sent out and paid, for instance—you archive the files with the same, almost automatic procedures.

Printed documentation consists of a well-illustrated manual that's organized and thorough, but not as fully indexed as it should be. The manual's first part is given over to an instructive tutorial, which took me about an hour to get through. Unfortunately the tutorial stops at the elementary level, and I had to learn the rest by doing, experimenting, and referring to the manual. However, the detailed, context-sensitive help screens that I could often call up (even within most dialog boxes) held my hand along the way.

The technical support is excellent, but 30 days after your first call for help it costs \$100 per year. However, the support staff will not start the 30-day count if they feel your call was caused by a bug or other program problem. That's what happened to me when *Timeslips* told me I had an active slip when none were in fact active. The fix was explained to me by a competent technician who did not start my clock. Telephone calls during the 30-day period are on your dime; the paid support includes an 800 voice number, as well as an on-line bulletin board. If you need further help, consultants certified by the publisher are available. In addition, a free quarterly newsletter is mailed to registered users, with letters from readers, application articles, and a useful question-and-answer column.

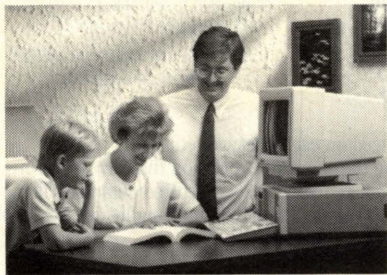
User errors are well trapped by the software. An attempt to find errors during early experimentation resulted in the phantom-slip problem described above. Other than that, I experienced no errors, nor could I induce any. In fact, much of the software's design actively helps avert errors. For example, generated bills that are designated as final are automatically removed so that they will not be picked up for further, double billing. This feature—which can prove inconvenient (as in “oops, that shouldn't have been final”)—can be overridden if necessary.

A GREAT INVESTMENT

After a few weeks of using *Timeslips*, data entry, billing, and drawing of reports became second nature for my wife and me, and the software became essential. *Timeslips* is not perfect—using it can be complicated at times—but I recommend it to all who charge clients or customers on a time basis. For them, *Timeslips III*, at \$300 list, is a worthwhile investment. And at a typical discount price of \$169, it should be irresistible. ■

EDITOR'S NOTE: Version 2.0 should be in the stores by the time you read this. New features include drawing tools for designing reports and password security.

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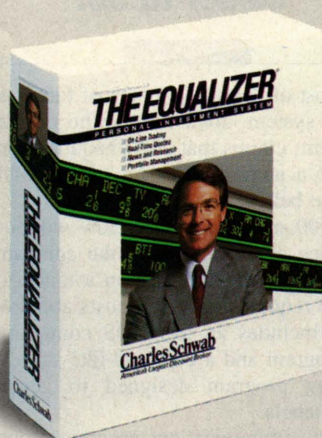


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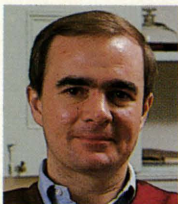
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FHVBC

Targeted Mailing Lists by Modem

BY ALFRED GLOSSBRENNER



I just mailed product brochures to 73 lawyers in the county of Austin, Texas. Starting without a single attorney's address on file or any phone books, I did the job in just three hours.

What's more, I did it at night—from 10:30 p.m. to 1:30 a.m.—from my home in Pennsylvania. Had I desired, I could have targeted my mailing to any other type of business in any other part of the country.

The mailing, for a small mail-order software company my wife and I run, may or may not be successful. Industry statistics are not encouraging. A 2 percent response rate is considered a success, so obviously I'll need to send out many more pieces of mail than that. But I'm convinced that targeted direct mail is the way to go.

For about \$1 in postage, labor, and materials we can put about a dozen double-sided, laser-printed pages in the mail. But to whom should we send them? You can buy mailing lists of every sort and pay perhaps a nickel a name. But you can use the labels only once, and most list houses are only interested in customers who want several thousand names.

One solution is going on-line. Several leading mailing-list firms have made their addresses available by modem. The two leaders in the field are Dun's Electronic Yellow Pages (EYP), from Dun & Bradstreet, and the Online Information Network (OIN), from American Business Information. EYP is available to Dialog and CompuServe subscribers; OIN is available through American Business Information's own system and through the U.S. West and BellSouth gateways on a subscription basis.

The service I used, however, requires no subscriptions. You just call when you need names, download them, and use them as often as you like. It's called the PC Yellow Pages (PCYP). PCYP doesn't offer information on the number of employees at a location, the name of a person to contact, or

the company's telephone number the way EYP and OIN do. And at 3.5 to 5 million unique addresses—versus the 8.3 million U.S. and 3.2 million Canadian addresses offered by a firm like American Business Information—PCYP isn't going to lure away any Fortune 1000 customers. But it's perfect for a small-business person.

The PCYP database covers all phone company yellow pages in the country and is updated each month to weed out defunct or inactive companies. Each PCYP record contains the company name, street address, city, state, zip, Zip +4, and the appropriate carrier-route code for postal delivery.

USING PC YELLOW PAGES

You access PCYP via a 900 telephone number, which costs you \$2 for the first minute and \$1 per minute after that (at 1200 or 2400 baud). My first time on the system I ended up paying about 15¢ a name, but I

The first time I paid 15¢ a name, but think with practice I could get closer to 5¢.

chalk most of that up to a lack of familiarity with the system. John Rapp, who designed the system, claims that 2400-baud users pay about 5¢ a name in connect time, which I find quite believable.

The 900 number given below works for both voice and data; to get the company's three-disk start-up kit, call on a touch-tone phone to request it (the call costs about \$6). The kit includes an MS-DOS communications program and a database-like sales and marketing program designed to generate mailing labels.

If your communications program supports VT-100 terminal emulation (as most do) and your database program can import mail-merge names and addresses (as most do), you don't even need PCYP software. Using my favorite communications program (*ProComm*) and my favorite database (*File Express*), I simply turned on my modem and dialed the 900 number.

To search, the system needs to know a zip-code range and keywords to identify a type of business. If you don't have a zip-code range in mind, you can specify a state and county and the system will show you all the cities and their zips.

With my zip-code range keyed in, I specified the keyword *law*. As I discovered later, that got me not only all the lawyers but also Dr. Lawson, Westlawn Elementary School, and a dentist named Hollaway. Next time, I will take advantage of the system's prompts to specify up to four keywords.

Finally, I was asked how many names I wanted. I keyed in 100, and the system went to work. It told me what zips and cities were being scanned and ended up looking through 14,680 listings for my 100 names.

DOWNLOADING A MAILING LIST

After about 12 minutes the system had finished building its file and was ready for me to receive. Downloading, using the XModem file-transfer protocol (the only one PCYP supports), took less than a minute. I signed off and looked at what I had bought—a text file in which fields were set off with quotation marks and commas.

This is the standard mail-merge format, and once you have defined your database structure, most database programs have no difficulty importing it. I loaded *File Express* and defined the first four fields as having 30 characters, the state field as two, the first zip as five, the Zip +4 as nine, and the carrier-route code as four. Then I activated the import function and held my breath.

It worked like a charm. All the information ended up where it was supposed to be. I loaded continuous-form labels into my printer. While *File Express* was pumping out labels, I was stuffing envelopes and running them through my postage meter.

In the morning they'll go to the post office, and we shall await the response. Now that I know the ropes, I'm preparing to do another mailing. Say, to all the chiropractors in Chicago, Illinois. ■

PHONE NUMBERS

PC Yellow Pages, (900) 860-9210; Electronic Yellow Pages, Dun & Bradstreet, (800) 223-1026, (201) 299-0181; Online Information Network, American Business Information, Inc., (402) 331-7169

ALFRED GLOSSBRENNER is the author of *Alfred Glossbrenner's Master Guide to FREE Software for IBMs and Compatible Computers* (St. Martin's Press, New York). He can be reached on CompuServe or MCI Mail (GLOSSBRENNER) or through the magazine.

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Should You Charge More for Your Services?

BY CHARLOTTE PIERCE

Expert Advice on How to Get What You're Worth

Not long ago, a neighbor of consultant Howard Shenson had a pool built in his backyard. It was a beautiful sight, and the fellow took great delight in telling how he'd negotiated the contractor down a good 10 percent from the asking price for the construction. "He was so pleased about how much he'd convinced this contractor to reduce his price," relates Shenson, "and he kept talking about it—right up until the day the wall of the new pool caved in, just a few weeks after the warranty had run out. You might say he got what he paid for. That contractor, having to back down from the original estimate, ended up compromising on the quality of his work."

Cutting fees to get business is tempting in any field, but that strategy may backfire, and especially vulnerable are businesses in which less tangible services than pool construction are involved. If the client spreads the word about the great work you do for next to nothing, you may get a reputation that's tough to shake. In most underpricing scenarios, Shenson says, professionals wind up doing more damage than good to their reputations. But if you charge what you think you're worth, will you be pricing yourself out of the market?

Professionals who charge fees in the upper range of the market are generally the most successful, according to Howard Shenson, author of the recently published *Contract and Fee-Setting Guide for Consultants and Professionals* (\$39.95; John Wiley & Sons; 1990). Shenson, who heads his own Woodland, California, consulting firm and gives popular seminars and lectures on consulting and practice management, has also written *The Consulting Handbook and How to Strategically Negotiate the Consulting Contract*. He also designed and now publishes *clientBase* and *CMS Consultant* software



**Underpricing
can seriously damage
your professional
reputation.**

for billing and professional practice management.

"You must ask yourself two basic questions when you begin to figure out how you will generate money in return for your professional services," says Shenson. "First, What should my fee be?, and second, How will I command that fee? Remember that you are an expert in your field and you run a bona fide business, and communicate that conviction to your clients. Then, they will respect your expertise and will be ready to pay you what you're worth."

FIVE STEPS TO PRICING YOUR SERVICES

Most professionals who deliver intangible goods base client charges on daily or hourly rates, even when the contract for service is couched in different terms: Common alternatives to straight time-unit quotes are fixed-price contracts, performance contracts, and cost-plus-percentage contracts. Shenson, who concentrates on corporate marketing in his consulting practice, does much of his work on a fixed-price contract basis, using a daily rate as a tool in figuring

project bids. Here's an example of how a consultant can calculate a daily rate of nearly \$750 using the following procedure.

1. Pay yourself for your labor. First, figure out what you could make as an annual salary if you were working for someone else. If you can command a \$100,000-a-year salary, divide that figure by the typical 261 paid days in a year, for a daily labor rate of \$383.14—whether you work more or fewer days, you'll still have to average that amount to earn your \$100,000. Remember that your labor has a definite value, whether you're in business for yourself or working for someone else.

2. Figure overhead. The typical fully occupied professional, says Shenson, bills clients 15 days per month and spends the remaining 5 working days doing marketing, conducting correspondence and other administrative tasks, going to conferences, and keeping up with professional education. Take a look at your business checkbook and tally what you spend each month on such expenses as clerical services, office supplies, transportation, and rent, even if you have a home office. Use this process to get a cost of doing business, then divide that figure by 15—the number of days per month during which you actually perform work for your clients. Overhead should be between 65 and 145 percent of your daily labor rate. In "Anatomy of a Daily Rate," monthly expenses of \$4,000 boil down to a daily overhead rate of \$266.67, or 70 percent of the daily labor rate.

In a large practice with a specialized staff, the daily overhead might be higher than in a smaller, leaner practice.

3. Add in a profit percentage. To the total of the overhead and daily labor rates, add in a 10 to 20 percent profit margin. In the example, a 15 percent profit on the total of overhead and labor yields a daily profit figure of \$97.47. Don't assume that profit is covered by your daily labor rate, Shenson emphasizes. As a consultant or professional firm, you run a business and you are entitled to a profit, just as much as a retailer who charges a markup on tangible goods is.

4. Streamline estimating. To make the estimating process more efficient and accurate, establish a schedule of fees for such standard tasks as drafting letters, making

CHARLOTTE PIERCE is a freelance writer and editor specializing in business and technology. Her home office is in Arlington, Massachusetts, is a year old this month.

presentations, or designing training modules. The real trick to estimating, says Shenson, is to break the job into smaller and smaller pieces until you feel comfortable with what you're charging for each portion. Depending on the type of contract, your client may or may not need to know these daily, hourly, or segmented rates, but you can use them to streamline your own calculations.

A breakdown of costs is also useful when

it comes time to negotiate your fee. If a client can't pay your usual fee, and you still want his business, you will be able to clearly define the options. A reduced fee will pay for an abbreviated version of your usual high-quality job.

5. Establish a minimum engagement time.

Telephone and travel time illustrate the importance of setting a minimum time unit for service. Shenson points out, "I get calls all the time for knowledge I carry in my head—an example might be someone who wants to know the best day to advertise in the *Wall Street Journal*. Now what's that really worth? The 30 seconds we spend on the telephone? A portion of the sales from the ad? I can't invoice a client that way, but the information has value. So, I set a minimum of 15 minutes per call, invoke my \$200 hourly rate, and bill the client \$50. Similarly, if you live in a large metropolitan area, it may take you several hours to travel back and forth to give a 30-minute presentation at a client's office. The client may resist paying directly for that, but he'll accept it more readily if you build it into a minimum engagement time."

This method can apply to all types of professional services, says Shenson, even to such fields as architecture, engineering, and medicine. If you are working on a fixed-price basis, it's useful to come up with a daily fee and standard rates for specific services, much as your doctor might charge \$125 for a physical exam. The actual exam may last only 15 minutes, but that fee also covers a portion of the cost of your doctor's specialized knowledge, office rent, staff salaries, sophisticated equipment, continuing professional training, and even utility bills. On the last day of the year, if you come up with less than \$195,040.08 in gross income, you may be sustaining a loss or a reduced profit. If you better that figure, you'll make a better profit. Once you've been in business a while, it should balance out.

BELIEVE IN YOUR WORTH

Shenson emphasizes that establishing a good reputation and communicating credibility are major factors in successfully selling such intangible products as professional services. "When you're dealing with clients," he emphasizes, "try to create an air of confidence, an atmosphere of demand and desirability, a feeling that your clients need you more than you need them. Let them know that you are not hungry, desperate, or needy, that you have many options, opportunities, and other things to do with your time. Clients need to see you as more like Saks Fifth Avenue than a street vendor selling silver chains. One is much more likely to haggle with a street vendor than with Saks." ■

ANATOMY OF A DAILY RATE

Let's say you intend to earn an annual salary of \$100,000, work a typical 261 days per year, pay overhead expenses (such as clerical, rent, telephone, transportation) of \$4,000 per month, and bill clients 15 days a month. Using your own figures, you should be able to adapt the following formula to calculate a reasonable daily or hourly fee.

DAILY LABOR RATE

= Annual Salary ÷ Days Worked per Year
= \$100,000 ÷ 261
= \$383.14

DAILY OVERHEAD RATE

= Overhead Expenses ÷ Days Worked for Client
= \$4,000 ÷ 15
= \$266.67

DAILY PROFIT

= (Daily Labor Rate + Daily Overhead) × Profit Margin
= (\$383.14 + \$266.67) × .15
= \$97.47

DAILY FEE FOR SERVICE

= Labor + Overhead + Profit
= \$383.14 + \$266.67 + \$97.47
= \$747.28

HOURLY FEE FOR SERVICE

= Daily Fee ÷ Hours Worked per Day
= \$747.28 ÷ 8
= \$93.41

GROSS ANNUAL INCOME

= Daily Fee × Days Worked per Year
= \$747.28 × 261
= \$195,040.08

THE MAJOR PLAYERS IN THE DAILY RATE

Howard Shenson recommends staying within the following percentages when you calculate a daily fee. Variables that can affect the percentages include the amount of competition, lower or higher overhead, length of time in business (requiring more or less marketing expenditure), and what the market will bear.

Labor and direct expenses	30 to 40%
Marketing overhead	20 to 30%
Nonmarketing overhead	20 to 30%
Profit	10 to 20%

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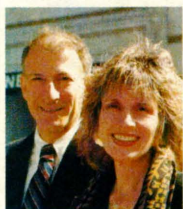
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Your Card: A Marketing Tool

BY PAUL & SARAH EDWARDS



How effective is your business card? To get a general idea, try one or both of these tests.

Test 1. Notice what people do when you hand them your card. Do they just put your card in their pockets or do they give it a second glance? Chances are those second glances mean you've made a positive impression.

Test 2. Review the business cards in your Rolodex. Lay out the cards on a table and select those that stand out. What attracts you to them? How does yours compare?

You'll find that an effective business card is far more than a piece of paper with your name, address, and phone number(s). A business card is a marketing tool that can serve several purposes. Think of it as a minibillboard, a brochure, or an advertisement—even an order form.

Read this series of tips on turning your card into a business-generating tool. Then talk to a graphic designer and a printer and let the presses roll.

1. Your card should relate to your letterhead and stationery. Use the same typeface and colors on all your print communications. The investment you make in designing a consistent visual image for your business will come back to you in referrals.

Select a readable typeface that is not complicated or ornate. A business card is small, so use two typefaces at most. Create variety with sizing, boldface type, and spacing. Avoid printing with only capital letters, because they make your card less readable and detract from a quality image. And don't crowd the card with type.

2. Make sure your card talks to your market. What do potential customers or clients expect from a business like yours? The creative and unusual? Quiet elegance and professionalism? Tried, true, and trusted? Design your card to meet the expectations of your target audience.

3. Cover the basics. Every business card should contain the name of your business, your name (if different from the business) and title, and your phone number(s). Your business cards probably will also have your

address and logo. (If you don't have a logo for your company, consider using the logo of your trade or professional association to enhance your credibility.)

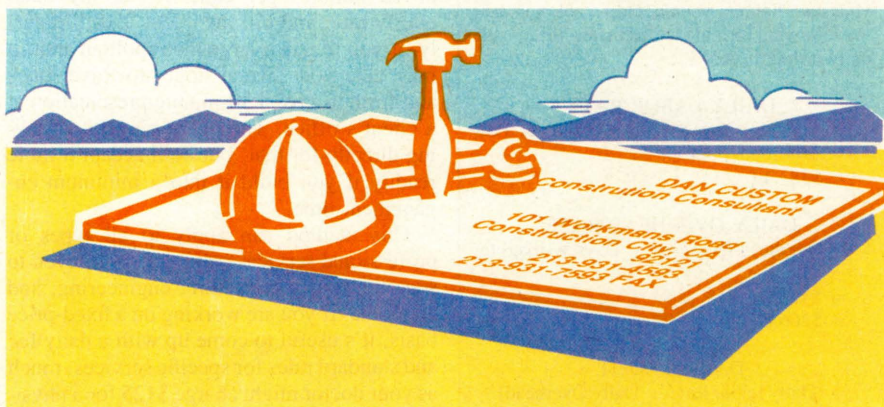
Most of the time, you want people to use your card to find your phone number, so make sure it stands out prominently. (The more phone numbers you list, the larger your business appears to be.)

As a general rule, an address communicates respectability, substance, and permanence. If, on the other hand, you work primarily on others' sites as, say, a repairer

Writing While You Wait," "Catering with Finesse," and "24-Hour Emergency Service." Emphasize these key points with larger type and bold lettering.

Phrases like "In business since 1979" or "11 years of experience" communicate substance, as do lists of professional certifications or license numbers.

5. Be open to creative alternatives. Instead of simply using a standard business card, consider a card that fits a Rolodex. Or use a double-size card folded in half. Double-size cards become minibrochures: The



or installer, you may not want to list an address.

Some home businesses don't want to include their address. If you are hesitant to use your home address, consider using a mail-receiving service like Mail Boxes Etc. That's preferable to a post-office box.

4. Use your card as a minibillboard. You may want to include the key services and benefits of your business by means of a slogan or a series of bullets that highlight your services. If you include a list, it will look best left-justified. Give people a reason to call you—mention benefits like "Phone answered 24 hours a day," "Same-day service," "No overtime charges," "Free estimates," "Free consultation," or other features about quality, economy, ease, comfort, convenience, safety, fun, reliability, or status.

If you use your own name or a business name like "Comicon" that doesn't say what you do, use a slogan or headline that identifies what you provide. For example, "Financial stress reduction" is the slogan for the bookkeeping service of Cameron Diversified Management. Another might be "Public relations doesn't cost. It pays." Headlines to help define a business might be: "On-Site Computer Repair," "Résumé

standard information appears on the front; additional benefits and information appear inside. Of course, bear in mind that such cards may be difficult to carry.

Consider using an illustration or a photograph, especially if you're an artist or photographer or if you're selling a unique product. A head-and-shoulders photograph of yourself is effective when you're selling a personal service such as counseling or public speaking.

6. Add color. An additional color, which can make your card stand out, may add only \$15 to \$20 to your printing bill, depending on the color. If your budget simply won't allow two colors of ink, select a single ink color other than black and use it creatively.

Alternatively, choose a card stock other than white. Consider various textures to complement your image: high gloss, matte, and rag, for example. Each creates a different impression.

7. Make the most of your card. Don't let the cards sit in your office. Carry them with you at all times and give them to as many people as possible. Remember, one of the best ways to utilize your card is as a means to get the business cards of people you meet so you can follow up with them by phone, fax, or mail. ■

Contributing editors PAUL & SARAH EDWARDS are authors of *Working from Home* (Jeremy P. Tarcher). They operate the *Working from Home Forum on CompuServe* (GO WORK) and cohost the "Home Office Show" every Sunday night on *Business Radio Network*.

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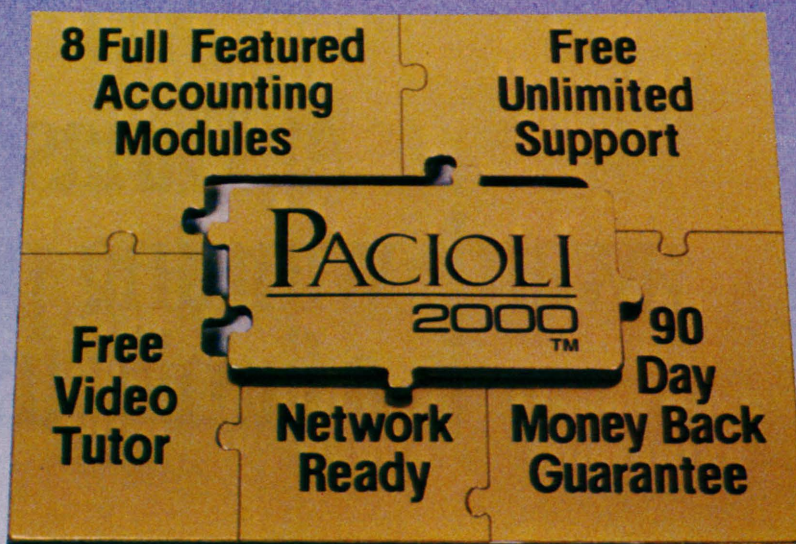
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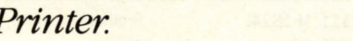
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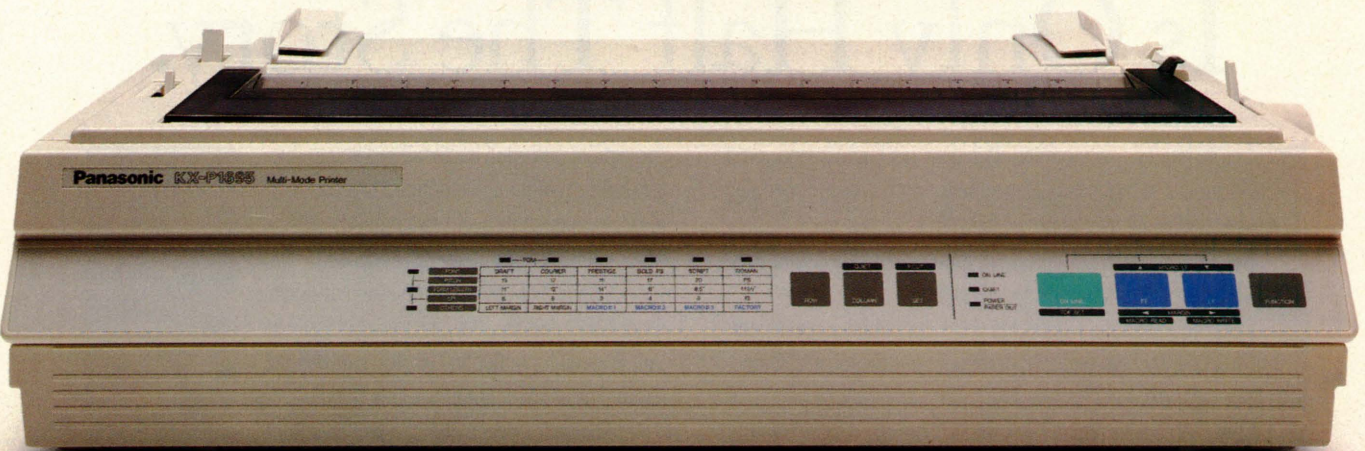
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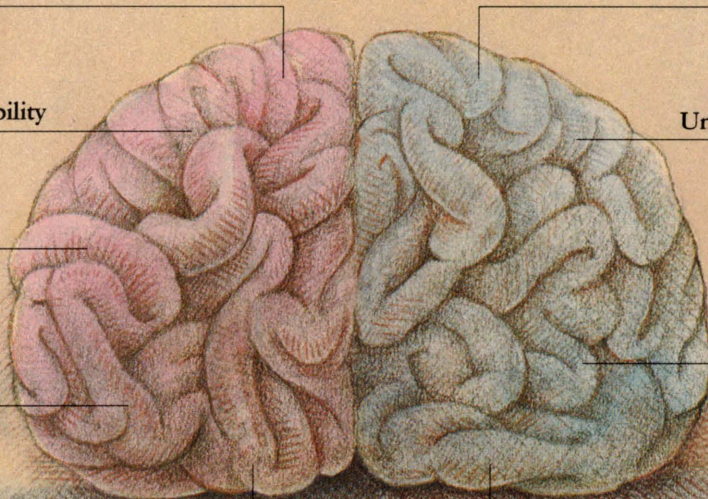
Programmable top-of-form
Sheet feed capabilities
Paper parking
Bottom, top and rear feed

Easy to Use

Plain English commands
Quick Menu
Built-in Help

Color-on-Command

User installable 7-color option



The GSX-140's Intelligence Is Only Half The Story.

Never before has a 24-wire printer offered so much intelligence. And never before has so much intelligence performed so well. Especially for a suggested retail price of under \$500.00.

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When you need the work done yesterday, which is usually the case, the GSX-140's high-throughput design does the job at 192 characters per second.

Now for the smart part. The friendly Command Vue™ control panel displays plain English prompts and requires no manual to understand. Anyone with half a brain can operate it.

It puts four programmable user formats at your fingertips, as well as a Quick Menu to let you scan and access all selected functions. It even offers an on-line help system if needed.

As for paper handling, you get programmable top-of-form, versatile sheet feed and paper parking capabilities. The

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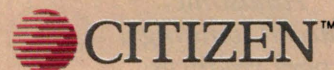
A myriad of options are available including Color-On-Command™ which you can easily install yourself for under \$60.00. You can also get a semi-automatic or automatic sheet feed option.

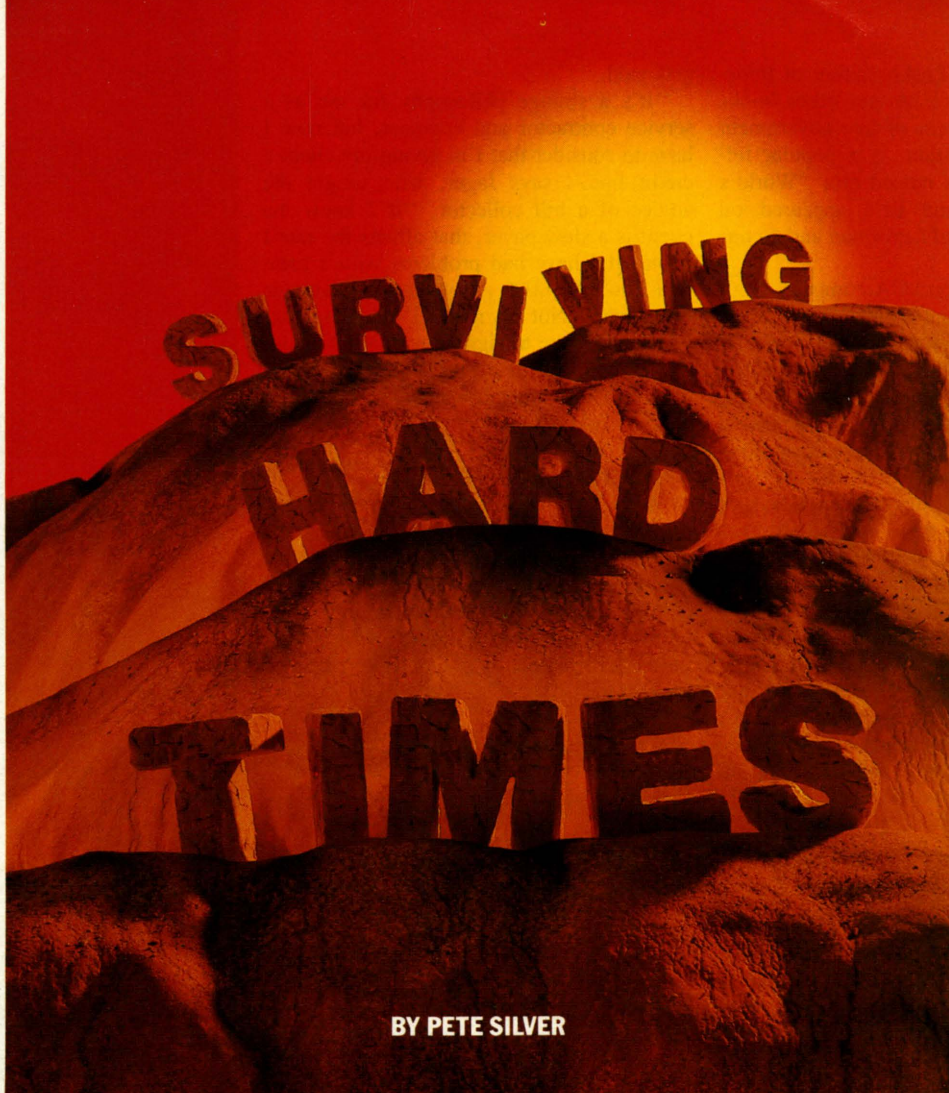
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BY PETE SILVER

Success is easy: Get enough work, get paid on time, and don't expand too quickly. But it doesn't always work that way. Every business goes through hard times. Ignore them, and you may fail. Plan for them, and you stand a better chance of surviving and prospering.

Matthew Lesko, author of *Information USA* and other books on sources of free government information, is a popular fellow. Larry King has named him "World's Greatest Guest"—and he's appeared on *Late Night with David Letterman* and *Dona-hue*, as well.

Lesko's Information USA company, with 30 employees working from home offices, reprints free government information and then sells it. (By law, government information cannot be copyrighted.) In two years, Lesko has sold over 60,000 softbound copies of his 641-page *Government Give-aways for Entrepreneurs* (\$29.95).

But Lesko hasn't always been this successful. He started three businesses that went nowhere, and two of them nearly went bankrupt. He's candid about his failures and the lessons they taught him.

"I think I only took off because of the failures," says Lesko. "It took two failing businesses to unlearn all the stuff that I was taught. In six years of business school I got ideas on how the world operates—but they were wrong. When you're small and starting out, you have to pick the critical success factor, which is to satisfy clients."

External forces, such as oil embargoes, overseas political upheaval, recession, rising interest rates, and inflation, can certainly hurt. Major corporations invest millions in consultants and ongoing research—and probably a few crystal balls, too—to anticipate these factors. (See "Surviving a Sluggish Economy.")

But the biggest problems are internal. Sluggish cash flow. Not enough new work. No repeat business. Marketing that costs more than it produces. Too much overhead and debt. Those are the problems you have the most control over.

GETTING PAID ON TIME

One of the most basic and biggest problems that small businesses encounter is erratic cash flow. In fact, many small businesses that fail are showing a profit when they go under. They have plenty of work and are profitable on an annual basis, but they never have enough cash on hand to pay their bills.

"I always have at least \$100,000 in accounts receivable," says Rick Jager, who heads Subsea Associates, an underwater engineering and construction firm in Bridgeport, Connecticut. "I always thought that getting the job and getting it done was the big thing. But getting paid takes so much energy."

"I want to get paid in 30 to 60 days. Sometimes there's not much you can do. But we do spell out on our contracts that the client has to pay us regardless of when he

gets paid.

"It's a strange philosophy for me as a service contractor and engineer, but now I have to consider that I'm giving my client a credit line," says Jager, who sought the advice of a bill collector. "If I know the client is a slow payer, that affects the rate I quote. If I have had problems with a firm, will I do a \$30,000 job without a guarantee of payment? Not any more. I'll do the work, but they'll have to sign an additional clause to the contract that says that a corporate officer will personally guarantee payment on this contract."

A NEW BILLING STRATEGY

Maria Zanar, who started One On One Fitness in New York City nearly three years ago, says that getting enough cash together has been her biggest problem. "Clients are coming in very well through referrals, and I've had to add four trainers," says Zanar, "officer will personally guarantee payment on this contract."

"You can take courses and get advice, but when you're out there on your own it's different."

Maria Zanar

was billing clients at the beginning of the month in advance of their sessions, I was getting cancellations and had to give money back to people. I could never accurately pinpoint the income each month."

Zanar met with an accountant who suggested she start billing at the end of the month for a certain number of sessions. People who miss a session won't get a refund, but will be allowed to make it up later. "Clients will pay a steady amount, and I'll have a better idea of my income each month," says Zanar.

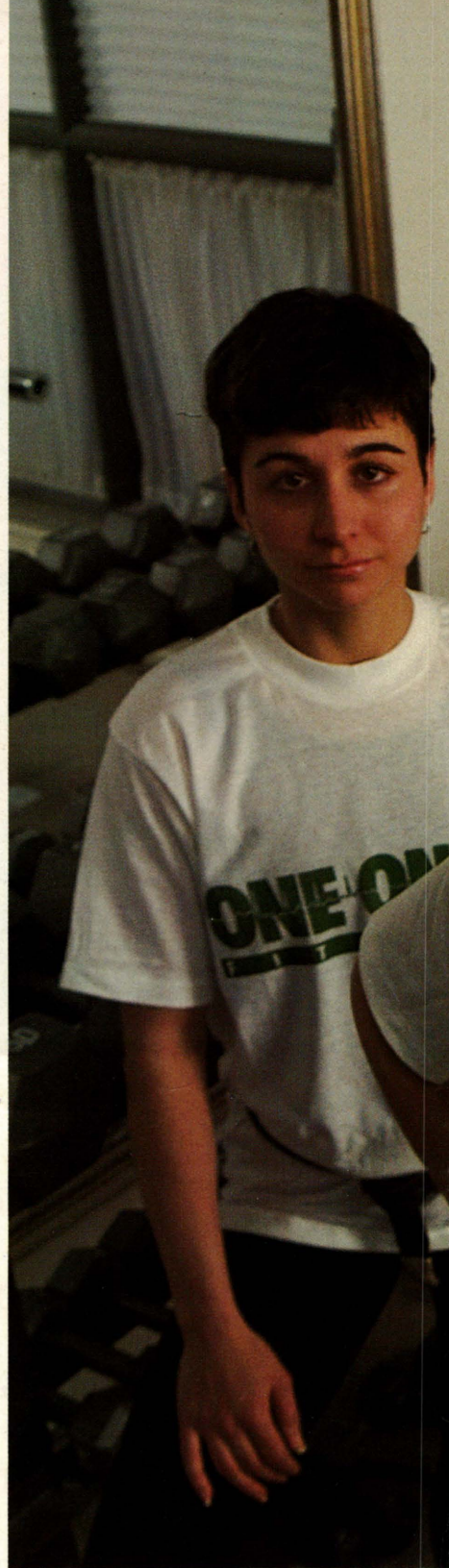
Businesses that sell a product have a slightly different problem. Not only do they have supply, manufacturing, and distribution costs, but they have to wait longer for a return on their investment because of the time it takes to get their products onto store shelves.

Besides the cash-flow problems that any start-up confronts, Zanar faces another classic problem—cyclical slow periods. Summertime, when the New Yorkers who are her clients flock to the seashore, is the slow period. "It's a test," she says. "Am I going to keep the doors open? Am I going to survive August?"

TRACKING CASH FLOW

To anticipate the ebb and flow of cash, you should prepare monthly income and cash-flow statements, so you always know where you stand. Ideally, you'd also prepare

a three- or six-month cash-flow forecast. You can do so with a variety of check-writing and personal finance programs, with a spreadsheet, or with a manual system. If you have a clear fix on cash coming in and going out, you can better anticipate a cash-flow crisis and take steps to avoid it. For instance, you might delay a major capital



PETE SILVER, a marketing consultant based in Gainesville, Florida, wrote "Wring Your Phone for All It's Worth," in the April issue.



Zanar (center) is fighting to maintain a healthy cash flow.

expenditure or postpone hiring a subcontractor for a certain job.

"You need to spend as much time and attribute as much importance to the financial aspect of your business as to the business," says Charles P. Ahern, regional vice president of the Connecticut Savings Bank. "How much you owe, to whom you owe it,

and how much you are owed, has to be managed. People continue to sell to buyers who are chronically delinquent because they're afraid of losing market share."

Steve Taback, a former Texas Instruments sales engineer who now heads TEM Associates, a sales-training firm based in Hartford, Connecticut, practices what Ahern

preaches. He does a personal financial statement every morning he's in his office. "I've been using MECA's *Managing Your Money* software since it first came out. I can generate an aging statement on my receivables and payables (showing when payments are due) and cash on hand through my various bank accounts. Each report is only six or seven

pages and takes just three minutes to print. I think part of being successful is being aware of your financial status—keeping a personal profit-and-loss statement or tracking personal net worth.” It’s how I see where I am.”

BRINGING IN WORK

While some start-ups, such as One On One Fitness, find that referrals quickly build a strong client base, the typical start-up struggles to bring in business. That, of course, is primarily because of inadequate marketing.

“For most home-based service businesses, marketing is an afterthought,” says Gerry Foster, a marketing consultant and author of a self-published manual, *Marketing a Service Business for Maximum Impact*. “The typical mentality is to wait for word-of-mouth advertising to spread. But you can’t sit back and wait for the phone to ring; you have to go after the business.

“Take a three-step approach. Figure out

whom to go after, what to say, and the best method of saying it—through seminars, telemarketing, direct mail, newsletters, and so on. If they do anything, most people start with step three because they think marketing means advertising.”

Ed Strano, for example, whose Strano Productions videotapes weddings, used a shotgun approach to marketing when he was starting out two years ago. “I was running ads here and there, but at the end of the year I’d tote up the money I’d spent and the money brought in, and I wasn’t getting any return,” says Strano, who works with his wife in Tustin, California. “Then I targeted my market and put all my energy into attending bridal trade expos. I’ve got 40 percent more work because of it.”

The secret is to keep enough work in the “pipeline.” Many start-up businesses think that once they land a few jobs or clients, word-of-mouth advertising will send referrals scurrying to the phone. But one day

they find there’s no more work and spend the next three months landing new jobs that they won’t get paid for for another three months. This obviously has a negative impact on cash flow. The way around this problem is to anticipate it and continually market yourself.

“Many small businesses do marketing in a periodic fashion,” says Howard Shenson, known as “the consultant’s consultant,” who leads marketing and management seminars and is based in Woodland Hills, California. (See *Business 101* in this issue for Shenson’s views on pricing.) “They do some marketing, get some business, and then are so busy actually doing business that they forget to market.” Pretty soon the business dries up—and the cycle starts anew.

The alternative to emergency marketing campaigns is ongoing, continual marketing—small steps taken daily or weekly that enable you to do your business without diverting a lot of energy to marketing. Some

SURVIVING A SLUGGISH ECONOMY

By Everett Slosman

The following survival tips have two things in common: They assume that hard times are only temporary and that the best way to overcome a sour economy is to work harder.

While competitors twist in the foul winds, lay the groundwork that will result in increased future sales. Preserve your capital and customers during a recession, and you’ll capture a larger share of the market when the economy turns upward.

Over the last two centuries, economic curves show that a typical positive economic cycle runs four years before peaking. And a downward trend lasts 18 to 24 months. (The strong economic cycle that started in 1982 and is only now slowing down is a historical anomaly.) So, within the five-year period required to put a small firm solidly on its feet, owners are likely to experience both good and bad economies.

By making one, several, or all of these tips a part of your operating procedure, you can avoid the worst effects of a down cycle.

1. Develop an aggressive marketing strategy—but one that fits the current business psychology. Far too often, owners stick with the same routines no matter what the economy. They ignore the fact that customers and competitors are changing.

Emphasize your company’s ability to build clients’ productivity, cut costs, save time, and reduce unnecessary expenditures. Show how your flexible credit policies can increase their cash flow. Extend a hand to deserving, but less creditworthy, accounts. Aggressive marketing strategies project positive images, something sorely needed during hard times.

2. Make “can do” your motto. Recessions depress people and generate pessimistic attitudes. But some individuals and companies react to the economic blues by looking ahead. When a firm responds to a problem with a can-do attitude, it’s flying in the face of the conventional wisdom.

This is not a Pollyanna attitude—it’s part of

the same optimistic attitude that helped start your business. It affirms the belief that business conditions are cyclical and booms follow busts. Once a recovery is under way, your company will be perceived as a winner.

3. A customer on the books is worth three in the bushes. Why? Because it costs five to six times more to sell a new customer than to satisfy an old one. So, while the competition scales back service-and-retention calls, smart management steps up the number of service calls made.

4. Pay close attention to business relationships. The rapport between a company and a customer is fragile. Downturns place added stress on these relations as customer demands escalate; in short, they want more for less. Understand the client’s requirements and make an extra effort to respond appropriately. Results are often spectacular and outweigh any time/effort ratio.

Avoid trite approaches, which are largely ineffective. The automakers’ rebates, for example, were once fresh, but are now viewed with suspicion or nonchalance by consumers.

5. Maintain a strong fiscal position. Keep lines of credit intact by working closely with the bank and your suppliers. Provide them with copies of income statements and balance sheets.

Watch your accounts receivable. Institute reasonable credit and collection procedures if receivables begin getting out of hand. However, keep in mind that everyone is experiencing rough going. Procedures should be flexible, encouraging customers to pay on time, yet

EVERETT SLOSMAN is president of Slosman & Associates, a small-business consulting firm specializing in economic-development projects. Slosman, who runs the business from his home in Bedford, New Hampshire, is also a widely published business writer.

allowing for economic vagaries.

6. Be first or be different. Hard times help generate new techniques. Even if you’re not the first to try something, you can still be different. For example, a nightclub that puts out an occasional newsletter to everyone who’s ever made a reservation, indicating new menus and performers, will stand out, since that’s such a rare move.

7. Target new prospects when business is slow. List companies that are solid targets. Find those executives who are the real influences and in a position to buy. Make an introductory sales call and then follow up.

8. Know your competition. It’s risky to assume that your competition is sleeping out the recession, but that assumption is one of the biggest mistakes small businesses make. They concentrate so intently on their own problems that they forget to watch what’s going on around them. A more plausible assumption is that your competitors are moving in on your customer base. Be aware of shifts in product or service lines, an obvious indicator of a shifting marketing strategy.

9. Don’t cut back on advertising and promotion. When the economy slows, it’s an all-too-human reaction to pull back and cut costs. But a study by McGraw-Hill shows that small firms that maintain or increase their advertising or promotion during recessions average higher sales than their counterparts who cut back in the same period of time. In addition, these same companies also average higher sales for three years after a recession.

Advertising and promotion tell the world you’re alive, well, and kicking; that you have faith in the future and are doing your best to satisfy customer needs.

Outlasting a recession takes time, so hang tough. Refuse to be part of the communal doom-and-gloom that permeates conventional thinking. Think like a winner. You went into business with an idea and a dream. Don’t forget either of them.

of these low-cost or no-cost techniques include publishing your own newsletter, giving speeches to groups of qualified prospects, writing articles for trade journals your customers read, and becoming active in associations with which your customers and prospects are likely to be affiliated.

Finding the time and energy for continual marketing isn't always easy. Long to-do lists seem more important at the moment. But, just as you must often force yourself to invoice when you're too busy with "real" work, you must force yourself to market no matter what else is going on.

Of course, spending money to get business that never comes can be a real problem, too, and start a downward cash-flow cycle. One small-business owner invested a substantial amount of his working capital in a small series of workshops to get more customers. But other seminars he was unaware of were scheduled nearby at almost identical times—and the "stars" of those seminars were better known than his speakers. While he can use the promotional writing and design again, most of his costs such as printing, postage, hotel rooms, and travel are not recoverable.

"The second time I almost went bankrupt I owed around \$250,000."

Matthew Lesko

You can also alter your product or service to reach the market you've targeted. Terri Breining, president of Concepts . . . Meeting & Trade Show Management, which she runs from her home in Carlsbad, California, found that raising her prices had an immediate positive effect on her business. "Planning meetings is something I knew after 13 years of working for others; getting customers is something I never had to deal with. When I started, I was working for groups that weren't paying very much, doing a whole lot of work for very little money," says Breining. "I finally realized that I was undervaluing my services, which is why I was getting groups with no money. As soon as I raised my prices I got an increase in business and in the per-contract price." She recently hired a full-time assistant, who works in Breining's house, to help with the workload.

TOO MUCH OVERHEAD

Ironically, one of the problems that can hamstring a small business is too much work. True, it beats too little work, but that's a small consolation when you're pulling 18 to 20 hour days and it isn't enough.

"As you grow, your overhead grows," says One On One's Zonar. "I had to hire more trainers and an assistant, get liability insurance for the trainers, put in a phone system that could handle the calls, and add copying machines and word processors."

Ed Strano has about \$70,000 worth of video equipment, and it's never enough. "In this business you always need new equipment to stay competitive," says Strano. "If you're taping in VHS standard format and the shop down the street is using Super VHS format, where are the people going to go? To the place that gives the better picture."

Strano's overhead also increased significantly when he was forced to move from his condo in Tustin, California, into a commer-

William Cannon, who started Hannah's Game Corporation to market *Cardz*, playing cards with letters instead of numbers (his 13-year-old daughter thought that gin rummy would be more fun if she were trying to spell words), finds that initial acceptance of his product has meant bigger expenditures. "I'm on a success curve with *Cardz*, but it keeps costing me more and more money," says Cannon, who has been in business two-and-a-half years. "Cash flow is a major problem."

Cannon is talking with potential financial partners, both individuals and corporations. "I'm not really in business yet in the classical sense, even though I've been doing this for a while," says Cannon, an entrepreneur and former Hollywood screenwriter who started the business with his own money.



Lesko's grinning all the way to the bank these days, but business hasn't always been so amusing.

cial studio when the condo association said he couldn't work from home any longer. "It's created a cash-flow problem; I'm looking at every angle to cut corners now," says Strano about his studio. "I had been doing pretty well working from home. Now I need insurance and an alarm system and I pay rent. But it's also opened up more opportunities. I'm starting to give video classes during the week, since we shoot weddings on the weekends."

OUT OF CONTROL

A seemingly prosperous business can get into trouble when the future looks rosy by expanding too quickly to handle the work. "Companies in a growth stage often have so much work they don't deliver on time; they make promises they can't keep; and time management suffers," says Mary Scott, a customer-service and turnaround consultant in Cambridge, Massachusetts.

Matthew Lesko has been through several overexpansion crises, each of which he says has taught him more about running a business. "The second time I almost went bankrupt, I owed around \$250,000. My original dream was to hire a secretary in 10 years—but I went from my bedroom to about 40 people in just three years! I thought I could do everything. When I started taking on

projects I couldn't complete, I saw the writing on the wall. The company was growing too fast. I couldn't manage it and had to pull back.

"I owed much more money than I had coming in. You know, everybody's happy as long as everything is growing—and when it isn't growing, things change. We had about 50 creditors—but only one was really

angry, chasing us with his lawyers. All the rest went with the repayment program we proposed, and we eventually bailed out of that, too.

"I remember one time in that phase. I was down to the bare bones, counting every penny. I would open the mail and if it wasn't a check or an order, I'd throw it away. None of my employees saw their mail. It was probably illegal, but I did it. The critical success factor was money now or money tomorrow. Nothing else was relevant."

HOW TO IMPROVE YOUR CASH FLOW

By Dan Janal

Here's a pop quiz. If you're billing \$5,000 a month and spending \$3,000 a month on expenses, you don't have a cash-flow problem. True or false?

Answer: Not necessarily.

That's because timing is everything. If your bills are due tomorrow and you haven't received your income checks, then you have a severe cash-flow problem.

Improving cash flow means increasing the speed at which you receive money and finding ways to meet your debts constructively.

Here are tips on gathering money more quickly, and paying it out more slowly—the two keys to improving your cash flow.

INCOME

1. There is a truth in the service business: The value of a service decreases after the task is performed. If you get payments in advance, you won't have to worry about clients discounting your efforts. Insist on one month's payment in advance from new clients. Adopt the landlord's tactic and you won't ever have a deadbeat for a client.

2. Understand the first rule of business: You won't get paid unless you send invoices and statements. Send invoices out, no matter what else is on your plate. If you can't get paid in advance, send invoices twice a month, preferably on the first and the fifteenth. If you say, "I'm swamped with work that has to get done yesterday; I'll invoice later," then your clients have no reason to pay you promptly.

3. If you're doing project work, insist on a payment plan tied to three target dates: 50 percent payable to initiate the contract, 25 percent on submission of a certain portion, and 25 percent upon completion. If the scope of the project changes or if the client's personnel changes, you will be protected because you were paid as you met due dates. Never sign a contract that penalizes you if you fail to meet due dates. You'd be surprised how easily clients can slow your progress, especially when doing so doesn't cost them anything and might actually save them money!

4. Fax the invoice. Why trust the mail? Or do both just to double your chances of getting the invoice into the right hands. Call your clients 10 days before the due dates to make sure they received the invoice or goods.

5. Create an electronic funds transfer account with clients. Rob Seitz, who runs Seitz Communications, a one-person marketing-communications firm in New York City, says that every month the money for his retainer is transferred automatically from his clients' bank accounts to his.

6. Some businesses like to stimulate clients to pay faster by offering a modest discount if payment is received quickly. Simply make a note of this at the bottom of your statement, with wording like "Payment received before the tenth of the month is eligible for a 2 percent discount." Note the amounts due with and without the discount, for emphasis.

7. Conversely, some businesses impose a surcharge of a modest rate (generally 1 percent per month) if the payment is not made within 30 days. This is a legitimate tactic, because you're expending money on your client's behalf (wages, expenses, and so on) and forfeiting the use of your money.

EXPENSES

1. Resist buying more than you need—even if it means losing the discount on bulk purchases. "Money in your checkbook is always worth more than supplies in your closet," says Ken Skier, president of SkiSoft Publishing, who publishes software utilities (such as the No-Squint Laptop Cursor) from his home in Lexington, Massachusetts.

On the other hand, if you *do* have extra cash, take advantage of special sales.

2. If you're tight on cash, first pay bills that charge an extra fee for late payment, such as credit cards. You certainly don't want to pay the whopping 12 to 20 percent annual interest charge on the unpaid balance. You can pay the bills that don't carry penalties (such as utilities) when you have the cash.

To maintain a good credit rating, you should try to pay at least part of these bills. The company will appreciate that you're trying to pay and won't consider you a complete deadbeat. Meanwhile, you'll be able to use your phone in a well-lighted and ventilated office.

3. If you owe the plumber for an emergency repair but find your wallet has a hole as well, you might be able to barter your services. For instance, if you're a writer you could write an ad for him. If you have a trade, you could swap services. Be creative. Also be wary. The IRS considers bartering to be payment and the service can be taxed as income. Private companies in many cities run barter systems that allow you to exchange services with others—and abide by IRS guidelines.

4. Pay bills when they come due, not before. For instance, if you receive a credit card bill on the fifth of the month and it's due on the thirtieth, write the check on the twenty-fifth, not the fifth.

DAN JANAL is president of Janal Associates, a high-tech public-relations firm he runs from his home in Fort Lee, New Jersey.

"I didn't have a cash-flow problem. There was no cash flow."

Terry Breining



Meeting planner Breining found that raising prices made her services more valuable.

KEEPING THE DREAM ALIVE

Often what sustains a business through hard times is the same resourcefulness, optimism, and goal-setting that helped create the business in the first place. "I'm in a staying-alive position right now," says Strano. "I'm doing 50 weddings a year, and I want to get up to 100. I'm teaching and consulting too. I did \$30,000 last year, and I hope to do \$45,000 this year."

"I prayed a lot at the beginning," says Breining. "I didn't have a cash-flow problem—there was no cash flow. I've had some days when I didn't want the pressure and thought about going back to work for someone else again. But I've always been able to keep the lights on and food on the table. I knew it would be tough for a few years."

When One On One's business dried up in the summer during the first two years, Zonar looked inside herself for support. "You can take courses and get advice, but when you're actually out there on your own it's different. What has kept me going is my dream to get my business going. I had to dig down and remember why I started in the first place. Sometimes you forget that." ■

Expand into Foreign Markets

*Your Business Gains an Edge
When Your Word Processor Speaks the
Local Language*

BY CHARLOTTE PIERCE

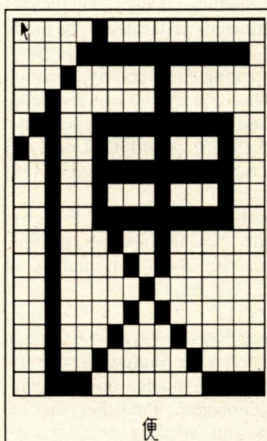
If you're conversant with a foreign language and the culture it represents, you have an enormous advantage in today's international trade free-for-all. You may be able to talk shop in 1992 when 10 European nations officially become the European Economic Community. Or your business can address the booming markets of the Pacific Rim or sell to the Soviets and Chinese as their economies take on a more Western, or at least global, hue. Even in "English-speaking" North America, the growing Hispanic and Asian ethnic communities make up two diverse, valuable markets.

It certainly helps to be a polyglot these days. However, you can do lots more than simply *habla español* or *shuo Zhongwen* with your Hispanic or Chinese clients and customers. Using the right software and hardware, you can produce foreign-language versions of the same letters, reports, brochures, proposals, packaging, and price lists that sell your products and services in English-language markets.

DOESN'T EVERYONE SPEAK ENGLISH?

Ninety percent of the world's population speaks no English. "Whether you run a small company or a large corporation, your ability to communicate effectively to another culture is the key to succeeding internationally," says Walter Locke, president of Interlex, a Massachusetts-based firm specializing in international public relations, market research, and translation.

Locke predicts possible disaster, however, when businesses venture into international marketing without knowledge of, or skillful guidance on, the culture, language, and business practices of a particular area. "For example," he notes, "a brochure showing a scantily clad woman or a man in



便

自來字中文軟件系統
Intex 公司的新產品

紐約，十月。Intex 軟件系統國際公司最近推出了自來字中文軟件系統，大大方便了微機用戶處理中文文件。

自來字系統，英文名 ZLZ，方便使用者選擇漢字，使微機能靈活運用漢語。ZLZ 用戶也可以造字或改變任何一個字。用戶可通過漢語拼音或威氏羅馬拼音，用普通的微機鍵盤選擇需要的中文字。這種輸入方法名為 "descriptor"，是 ZLZ 軟件的特有漢語輸入方法。其準確性達百份之百。

"漢語是一個複雜的語言。它有幾萬個中文字。"

Intex 公司的總裁 Awni Abboushi 先生說。我們

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Flexible foreign-language word processors let you create new characters.

military dress would not be appropriate in certain parts of the Middle East."

But all the language fluency and cultural sensitivity in the world won't help you boot your faithful English word processor and write marketing proposals that read right to left in Arabic or Hebrew or create financial statements filled with graceful Chinese characters. Your computer system must first be able to handle the language's special graphics and display requirements. Imagine, for example, the size of a keyboard providing all 50,000 characters in the Chinese language—or even just the 4,000 characters required for standard fluency!

STRANGE CHARACTERS ON YOUR COMPUTER

Vastly different programming, graphics, and hardware requirements divide foreign-language word-processing software into four main categories, ranging from languages easiest to produce to hardest:

- Roman alphabetic (English and most European languages);
- Non-Roman alphabetic (notably Russian and Greek);
- Right-to-left non-Roman alphabetic (Hebrew and Arabic, for example);
- Pictographic/ideographic languages (Chinese, Japanese, and others), which are composed of arrangements of strokes or character elements that represent images or symbolize ideas.

Gerard Ervin, director of the Foreign Language Center at Ohio State University and system operator (sysop) of CompuServe's Foreign Language Forum (FLEFO), notes: "European-language word-processing software—which is based on the Latin, or Roman, alphabet we use in English—is readily available. Next, there is a small, but growing, range of software for such non-Roman alphabetic languages as Russian, Greek, Hebrew, and Arabic. And finally, there is a spotty selection of software for

CHARLOTTE PIERCE, former managing editor for HOME-OFFICE COMPUTING, speaks and writes four languages.

Japanese and Chinese." (See section, "Foreign-Language Word-Processing Software.")

"Some languages have their own peculiarities," adds linguist Don Ferruggia. "For example, in Hindi, each character represents a syllable rather than a letter. Because there are too many possible combinations, each key can't represent a syllable, so your word processor must be able to convert a series of keystrokes representing the sounds of the syllable into a character. Korean, Chinese, and Japanese present a similar challenge: The word processor must collect several keystrokes before it can print one graphic character representing a word."

Hebrew, Arabic, and other right-to-left-reading languages, although alphabetic, cannot be practically adapted for common

word processors. Their alphabetic characters can be assigned to standard computer keys, to be sure, but without special software, you



won't be able to make text start on the right side of the page, flow to the left as you type, and wrap around to the right side again, according to Alan Rosenbaum of Davka, a leading developer of application software in Hebrew and related languages.

"For instance, you can type in a Hebrew or Arabic font with any Macintosh word processor, but it will still display Hebrew and Arabic text from left to right—and that's difficult to read," he emphasizes. "much like reading English backward. For any practical business application, it's best to have a special word processor that displays and prints the language properly, from right to left."

You can readily install special fonts to produce the Greek alphabet or the Cyrillic characters of Russian, reports Richard

FOREIGN-LANGUAGE WORD-PROCESSING SOFTWARE

This section offers a selection of word processors for the four major language categories—as far as ease of writing on a computer goes—discussed in the main text. Those categories are

- Roman alphabetic—English, Spanish, French, German, and other European languages
- Non-Roman alphabetic—notably Russian and Greek
- Right-to-left alphabetic—Hebrew, Arabic, and others
- Pictographic/ideographic—Chinese, Japanese, and others.

Contact the publishers or distributors for memory, graphics, and printing requirements or other hardware considerations. Ask for a sample output, along with a list of program features. Major word-processor publishers generally stick to European-language conversions, although a few, such as Microsoft, are developing Asian-language packages.

ENGLISH WORD PROCESSORS IN FOREIGN LANGUAGES

Microsoft Word v4.0/Macintosh (\$395); v5.0/MS-DOS (\$450). Microsoft Corp., One Microsoft Way, Redmond, WA 98073; (206) 882-8080

Languages: Dutch, Finnish, French, French-Canadian, German, Italian, Portuguese, Spanish, Swedish

Systems: Macintosh, MS-DOS

In the United States, Microsoft sells add-on spelling checkers for languages listed here. However, foreign versions of *Word* must be imported via the appropriate overseas distributor. Microsoft translates *Word* and its manuals completely to the target language—down to the user interface, commands, and basic cultural and linguistic differences such as date format and decimal characters—while retaining all features.

WordPerfect v1.0.2/Macintosh; v5.1/MS-DOS (\$595). WordPerfect Corp., International Division, 1555 N. Technology Way, Orem, UT 84057; (801) 222-4264

Languages: Catalan, Danish, Dutch, Finnish, French, French-Canadian, German, Greek, Icelandic, Italian, Norwegian, Portuguese, Russian, Spanish, Swedish

Systems: Macintosh, MS-DOS

Each package comes with manuals, tutorials, on-line help, spelling checker, and thesaurus—with all commands and instructions in the language. Stand-alone foreign-language modules (including spelling checkers, hyphenation programs, and thesauri) can be ordered separately (\$99) for use with the English version.

WordStar v5.5 (\$495). WordStar Corp., 33 San Pablo Ave., San Rafael, CA 94903; (415) 499-1200

Languages: Danish, Dutch, Finnish, French*, German*, Italian*, Japanese (works on NEC 9801 computer with *Kanji* characters in ROM), Spanish*, UK English

System: MS-DOS

Foreign-language versions available through U.S. (noted by asterisk) or foreign distributors. Conversions include manuals, on-line help, tutorials, and dictionaries. Publisher also offers dictionaries and spelling checkers for U.K. English, French, German, Italian, and Spanish that work with standard *WordStar*.

XyWrite III Plus v3.55 (\$445). XyQuest, Inc., 44 Manning Rd., Billerica, MA 01821; (508) 671-0888

Languages: French, German, Italian, Spanish

System: MS-DOS

Versions available through foreign distributors. Program's versatility (saves files in ASCII format) and interface make it a favorite of publishers, typesetters, editors, and writers—although some people complain about its reliance on memorized commands.

SPECIALIZED WORD PROCESSORS

BrushWriter v1.0 (\$600–\$750). BrushWriter Corp., dist. Cheng & Tsui, 25-31 West St., Boston, MA 02111; (617) 426-6074

Languages: Chinese, English, French, German, Greek, Japanese (and other Asian), Spanish, Russian

Systems: Macintosh, MS-DOS

Easy-to-use word-processing and page-makeup program includes four typefaces in various sizes, plus built-in English-to-Chinese and Chinese-to-English transliteration.

ChinaStar v6.05 (\$895). JHL Research, 1236 E. Katella Ave., Anaheim, CA 92805; (714) 939-9898

Languages: Chinese, Greek, Japanese,

Russian

System: MS-DOS

Memory-resident system converts all MS-DOS functions to Chinese or other languages. Lets you install up to 40,000 Chinese characters into its built-in word processor or into special versions of *dBase*, *Lotus 1-2-3*, and other applications (available through publisher).

Duke Chinese Typist v1.0a (\$25). Asian/Pacific Studies Institute, 2111 Campus Dr., Durham, NC 27706; (919) 684-2604

Language: Mandarin Chinese

System: MS-DOS

Limited vocabulary, but inexpensive menu-driven word processor converts pinyin to Chinese characters. Includes 4,000 characters and free customer support.

EGWord v4.0 (\$499). Ergosoft, dist. Japanese Language Services, 186 Lincoln St., Boston, MA 02111; (617) 338-2211

Language: Japanese

System: Macintosh

Uses a Microsoft *Word*-like interface to automatically convert *Romaji* or *Kana* input to Japanese *Kanji* characters. Compatible with *EGBook* (Ergosoft) and *Kanji PageMaker* (Al-dus) desktop-publishing software.

EWPlus v2.0 (\$850). ITL, Inc., dist. Japanese Language Services, 186 Lincoln St., Boston, MA 02111; (617) 338-2211

Language: Japanese

System: MS-DOS

As you type phonetically in *Romaji*, software selects most common character for each word or phrase and lets you select optional characters for homonyms. Includes basic editing such as centering, cut and paste, and margin setting.

MacChinese v2.2 (\$100); **MacKanji** v6.2 (\$100); **MacKorean** v4.0 (\$80); **MacHindi/Sanskrit** v1.5 (\$80); **LaserThai** v3.0 (\$80); and others. Linguist's Software, Inc., P.O. Box 580, Edmonds, WA 98020; (206) 775-1130

Languages: Chinese (Mandarin and Cantonese), Greek, Hindi, Japanese, Korean, Russian, Thai, and more

System: Macintosh

Company publishes Mac word-processing software in 200 languages—160 are PostScript-compatible. Chinese packages include 8,600 characters, text editors, and an English-

Weltz, president of a New York-based foreign-language communications company. "I type and word-process on a PC in Greek, Russian, and other 'exotic' languages," Weltz says. "I use *Multi-Lingual Scholar* and other commercially available software and hardware with very little difficulty. The key, of course, is knowing the language and its alphabet."

By comparison, it's a cinch to write using the correct accents, diacritical marks, and other special characters needed for languages such as French, Spanish, and German. With just a standard word processor and a laser or dot-matrix printer, you can get a required character either by embedding the correct ASCII code into your document's text or, on Macintosh systems, by pressing certain Option-key combinations.

However, because of the awkwardness of working with ASCII codes, dedicated word processors for European languages are also available for MS-DOS.



WHICH SYSTEMS WORK BEST FOR WHICH LANGUAGES?

There is a sharp disparity in quantity and quality of word processors and writing utilities among the four language categories, as well as between MS-DOS and Macintosh software, admits Gerard Ervin, the CompuServe sysop. A confirmed Mac fan, he concedes that many users swear by DOS systems for non-English word processing. Because they have long manufactured IBM compatibles, Asian countries are more familiar with DOS. Therefore, Asian-language word processing and other applications have been developed more extensively for DOS than they have for the proprietary and harder-to-clone Mac operating system.

However, one important advantage the Mac has—especially for Roman-alphabet

FOREIGN-LANGUAGE WORD-PROCESSING SOFTWARE

Chinese switcher to toggle between systems without rebooting. Ancillary products include Greek and Hebrew dictionaries.

Multi-Lingual Scholar v3.2 (\$350–\$500). Gamma Productions, 710 Wilshire Blvd., #609, Santa Monica, CA 90401; (213) 394-8622

Languages: Arabic, Bulgarian, Czech, Dutch, English, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Icelandic, Italian, Latin, Lithuanian, Norwegian, Persian, Polish, Portuguese, Russian, Serbo-Croatian, Spanish, Swedish, Turkish, Ukrainian, Yiddish, and more

System: MS-DOS

Basic word processing, plus. Lets you write in up to five languages within one document, on one line, and even switch from right-to-left reading Arabic or Hebrew and back to English again. Create new alphabets using supplied *Font Scholar* utility. Compatible with page-makeup systems such as *Ventura Publisher* and *PageMaker* through importing files as graphics.

Multilingual Word Processor v3.2 (\$195 for two languages; \$55 extra for third language; \$15 extra for each succeeding language). Intex Software Systems International Ltd., P.O. Box 3068, Stamford, CT 06905; (203) 975-7412

Languages: Albanian, Arabic, Czech, Danish, Farsi, Finnish, French, French-Canadian, Gaelic, German, Greek, Hebrew, Icelandic, Italian, Norwegian, Polish, Portuguese, Russian, Serbian, Serbo-Croatian, Slovenian, Spanish, Swedish, Turkish, U.K. English

System: MS-DOS

Basic word processing in 26 languages. Features vary per language and include on-screen keyboards, on-line context-sensitive help, printer options, and the manuals, messages, prompts, and help screens are in the language used. Test version available for \$5.

MultiWriter v2.0 (\$199; MS-DOS); **AllScript** v1.4 (\$350; Macintosh). Davka Corp., 845 N. Michigan Ave. #843, Chicago, IL 60611; (312) 944-4070, (800) 621-8227

Languages: Hebrew, Arabic, others

Systems: Macintosh, MS-DOS

Makes writing from right to left as easy as standard word processing. Publisher develops word-processing, desktop-publishing, database, and other applications software for He-

brew. Contact for catalog.

PX-Chinese Magic Typist v1.0 (\$95–\$195). Chinese Computer Communications, Inc., 820 North Capitol Ave., Lansing, MI 48906; (517) 372-4660

Language: Chinese

Systems: Macintosh, MS-DOS

Lets you build Chinese characters with a standard keyboard matched to specific keys, using a unique form of the standard pinyin transliteration system.

TianMa v2.0 (\$695). Asia Communications, 117 St. Catherine W., Suite 606, Montreal, Quebec, Canada H3B 1H9; (514) 434-9373

Languages: Chinese (Mandarin), Japanese

System: MS-DOS

Full-featured program fast becoming the most popular Chinese word processor. Choosing proper characters from context, converts phonetic transliterations, or pinyin, to Chinese characters (9,000 built-in) as fast as you type. Lets you cut and paste, search and replace, mix English and Chinese text, and create your own limitless dictionary.

ZLZ Chinese v2.0 (\$395). Intex Software Systems International Ltd., P.O. Box 3068, Stamford, CT 06905; (203) 975-7412

Languages: Chinese, plus 20 European

System: MS-DOS

Includes basic editing and text-formatting functions, as well as ability to mix English and Chinese text in a single document. Also has basic word processing in 20 European languages.

SYSTEM SOFTWARE

Macintosh International Systems Software (\$35–\$50). Apple Programmers and Developers Association (APDA), 20525 Mariani Ave., #33G, Cupertino, CA 95014; (408) 562-3910, (800) 282-2732

Languages: Arabic, Chinese, Danish, Dutch, Faeroese, Finnish, French, French-Canadian, German, Greek, Hebrew, Hindi, Icelandic, Italian, Japanese, Korean, Norwegian, Portuguese, Spanish, Swedish, Thai, Turkish, and more

System: Macintosh 5.1 or later

All APDA foreign-language operating systems work with Mac Systems 5.1 through 6.0.2. Character-based systems (Chinese, Jap-

anese, and Hindi) include keyboard transliteration guides. Annual membership to APDA costs \$20 and includes catalog. Note: Apple Japan has recently released a Japanese LaserWriter printer, and a Chinese version of the machine is slated for release later this year. The printers may be imported from Apple's Asian distributor, but the company has no plans to market either laser printer in the U.S.

OTHER RESOURCES

American Translators Association, 109 Croton Ave., Ossining, NY 10562; (914) 941-1500

Publishes the ATA Translation Services Directory, a collection of detailed information on active ATA members who accept translating or interpreting assignments. Established in 1959, the ATA primarily serves the educational and professional needs of translators and provides certification for translators of Dutch, French, German, Italian, Japanese, Polish, Portuguese, Russian, and Spanish.

Athelstan: Newsletter on Technology and Language Learning, P.O. Box 8025, La Jolla, CA 92038; (619) 552-9353

Although its emphasis is on technology in language education, rather than applications, this newsletter is a good way to keep in touch with cutting-edge technology.

China Books & Periodicals, 2929 24th St., San Francisco, CA 94110; (415) 282-2994

Distributes Asian-language word-processing software, books, and computer-aided learning products. Write or call for free catalog.

CompuServe Foreign Language Forum (FLEFO); (800) 848-8199

Operated by linguists Gerard Ervin and Douglas Lacey, FLEFO is an excellent on-line place to find new and free software, tips and support from other users, and computer-aided language-learning tools. To get there, enter "go FLEFO" at the CompuServe prompt.

Wordnet, Inc., 8 Agawam Rd., P.O. Box 164, Acton, MA 01720; (508) 264-0600 (voice), (508) 263-3839 (fax)

Founded in 1985, this on-line network contracts with 400 translators (most are home-based) worldwide, sending and receiving word-processed documents through electronic networks.

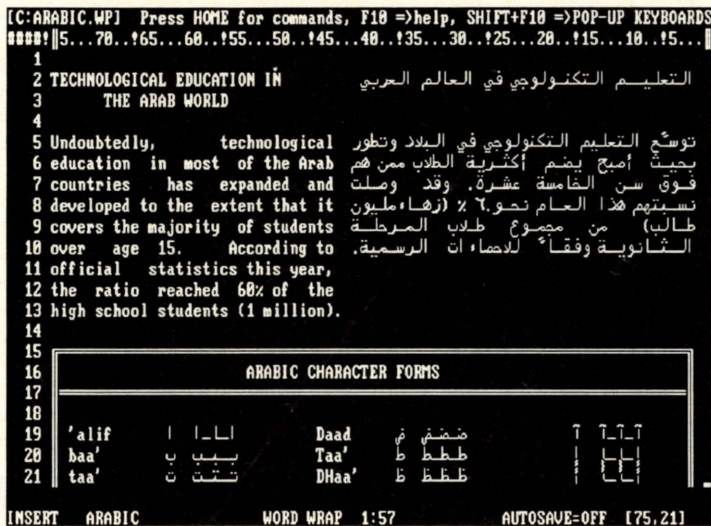
THE QUEST FOR SOFTWARE

Finding a non-English word processor that's right for your business is going to be considerably more tricky than choosing an English package. This is especially true if you want to write in Asian or Middle Eastern languages or others with special graphics and formatting requirements. In general, hard-disk drives and EGA displays are minimum requirements. And exact printer compatibility is essential.

You'd search long and hard to find foreign-language word processors in most American software stores, and a comprehensive catalog of foreign-language software simply does not exist. Although only a few major publishers offer United States sales or support for foreign-language versions of their word processors, several publishers—including Microsoft Corporation, WordPerfect Corporation, WordStar USA, and XyQuest—provide the names and addresses of their overseas distributors, who will probably export the foreign-language version back to you at the current exchange rate plus shipping charges.

All is not lost, however. *WordStar* in Spanish, German, Italian, and French and

Mixing English and another language on-screen makes international word processing easier.



word processing—is its “automatic-overstrike” WYSIWYG capability, explains Linguist’s Software president Philip Payne, a former professor at Cambridge University. That’s his fancy way of saying that certain Mac key combinations let you put the required accent over a French *e* (as in *résumé*) or the tilde over a Spanish *n* (*señor*) and see the result on-screen, as well as on your page. With a standard MS-DOS word processor, you typically enter a separate ASCII code for each special letter or combination of characters and, in most cases, wait until you print to see the results.

Another Mac advantage is that fonts are part of its basic system. For instance, as long as you have installed fonts for alphabetic left-to-right languages such as Greek and Russian, you can pull down the font menu and select them for any application—no special foreign-language software is needed. In addition, letters such as the Danish *ø* are built into nearly every Mac font.

TALKING TO ASIA—PICTURES INTO PRINT

Software publishers are just catching on to the demand for Asian and other foreign-language word processors in the United

nese with the popular *TianMa* word processor and with other MS-DOS programs compatible with *ReadyPage*, a Chinese/Japanese page-makeup program, to produce business-seminar materials, publications, and correspondence they send to the Orient.

Most pictographic-language word processors—those for Japanese or Chinese, say—match a Roman-alphabet transliteration produced on a standard keyboard with a resident library of pictographic characters, then display and print the proper characters using the computer’s graphics capabilities. For instance, when using *TianMa* to type the Chinese pictograph for a question, pronounced “ma,” you’d enter the Roman letters *ma* followed by a punctuation mark, such as a semicolon or a dash, depending on how you accented the question (there are several forms of the *ma* pictograph). Some word processors let you build your own dictionary of foreign characters. Since character storage gobbles up memory quickly, though—the same as any graphics do—some programs furnish add-on cards or additional dictionaries and fonts on separate disks.

The ability to mix English and Chinese in a single document was essential for James Chan, a Philadelphia-based columnist for a mainland China newspaper. “With *ZLZ Chinese*, I created a bilingual list of over 2,500 names and addresses of Chinese government and industry leaders. I also used *ZLZ* for my bilingual correspondence and questionnaires,” says Chan.

“The beauty of *ZLZ* is its ability to mix Chinese and English in a single document so I can create an address label that both groups can understand. One limitation is that I can’t import the graphic Chinese characters to *dBase*, so I have to use pinyin for Chinese in the disk-based version.” (Pinyin is a standardized phonetic transliteration of Chinese characters.)

Finding a foreign-language word processor is trickier than choosing an English package.

the Spanish *WordPerfect*, for instance, are sold and supported in the United States and Canada. When shopping for software, however, you’re more likely to find such foreign-language add-ons as dictionaries, thesauri, spelling checkers, fonts, and utilities. Also, most American publishers of word processors stick to European-language conversions, although a few told us of Asian-language packages in development.

In addition to contacting the publishers listed in the accompanying software box, you might want to call the foreign-language resources listed. CompuServe’s Foreign Language Forum is an especially good place to look for software and answers to technical questions. If you still have trouble locating the software you need, contact foreign-language publications (newspapers abound in Chinese, Japanese, Russian, Greek, Spanish, and other ethnic communities across the country), university foreign-language departments, specialty bookstores, translation services, and the Software Publisher’s Association. Also, ask embassies, advertising agencies, banks, international organizations, and trading companies about the software they use. ■



States, notes Jim Caldwell, president of Pacific-Rim Connections, a San Francisco firm that consults on Asian-American cross-cultural business. Pacific Rim’s staff write Chi-

On My Own,
Part V: BY COREY SANDLER



*Wanted: Responsible,
Hardworking, Honest Person to
Help Shoulder the Burden*

Taking on a Partner



For me, the best part about leaving The Big Company and setting up my own home business was what I was going to lose: my boss, my staff, and all those meetings.

So why did I keep waking up in the middle of the night in cold sweats as the date of my emancipation approached? Because I realized I was also about to lose my

safety net.

The entire fate of the company—from designing a business plan to bringing in work, from creating a salable product to managing the books—was to be on my shoulders.

Having a boss was sometimes a real pain, but at least I always knew that there was someone else worrying about cash flow. Managing a staff was frustrating, but there was comfort in passing on work to people who had an interest in the company's success. And although I told myself I wouldn't

miss meetings, in my heart I wanted fresh ideas from others to cross-pollinate with my own.

A CIRCLE OF CONSULTANTS

As I set up my company, I found my own crew of outside consultants: an accountant, an attorney, and an insurance agent. I selected them with care, and I hoped that each would represent me just as if it were his or her own mortgage payment on the line.

But still I worried. What would I do if there were too much work for me to do by

COREY SANDLER is president of Word Association, an editorial services company based in Holliston, Massachusetts.

ILLUSTRATION BY DENNIS DITTRICH

myself? What if I got sick? What if I wanted to take a vacation?

The solution was pretty obvious, although executing it would be complex. I decided that the best thing I could do for myself and my company would be to take on a partner.

I still insisted on maintaining the advantages that had driven me to work from my home in the first place: the freedom to do the work that was most interesting (and rewarding) to me and the joy of running my own show.

CHOOSING A PARTNER

I like making lists, so I started one called Partner and put down the following characteristics for a business mate:

1. Work habits. He or she must be at least as hard a worker as I, but just as loose. The most important thing was that work get done on time and get done right. It didn't matter to me or my clients whether the work was performed in the middle of the night or at high noon, on a boat in the Caribbean or at a desk in Midtown Manhattan.

2. Experience. I've worked as a printer, a political reporter, a business writer, a wire-service correspondent, an editor, a teacher, and a speech writer. I wanted a partner with an equally varied background.

3. Honesty. I wanted a partner who would operate from his own office and often manage his own projects. I had to find someone who could share the load fairly and be scrupulously honest in sharing expenses and managing income.

By the time I had finished the list, I was convinced that it would be all but impossible to find such a person. I could see the classified ad: "Hard-driven former editor seeks partner, any race, sex, or peccadilloes, to share business life, long strolls through bank vaults, and best-seller list."

I made a list of people I knew and respected who were working in Big Business but might be feeling the same urge for independence I had felt. Then I applied my criteria to the list—and immediately threw out every name except one.

His name was Tom Badgett, and he was one of the few people in my life who have worked for me and become close friends. In fact, Tom had worked for me twice before: I had hired him to be technical editor of a magazine I was running in New York, moving him from West Virginia to New York City, and then, years later, when I had changed employers and locations, I hired him to work for me on a newspaper in Massachusetts. Tom had made only one stipulation when I had hired him the second time: He didn't want to commute to a downtown office; instead he wanted to work from his home, which he was in the process of moving back down South, this time to an idyllic piece of Tennessee hill.

Tom is a hardworking, offbeat curmudgeon, as honest as the day is long. And

we've gotten along well, which is unusual for both of us. Our legal arrangement is a corporation—set up for its tax and liability benefits—in which we are fifty-fifty owners.

ONE PLUS ONE IS THREE

One of the first and thorniest issues we dealt with was this: Suppose over the course of a year partner A brings in jobs worth \$150,000 and partner B brings in jobs worth only \$75,000? Should A earn more than B?

It's a tough one to figure, but one of our outside consultants gave us a clear way to view the situation. If this is to be a true partnership, he said, the real question should be, Are both partners working equally hard? If the answer is yes, then the distribution is an even 50 percent.

Just as we hoped, we have found that one plus one equals three. Two heads are more than twice as good as one head. We're able to take on jobs that one or the other of us could not handle alone, and we have found that merging our talents and backgrounds allows us to break up a job and distribute the parts.

The heart of Word Association's work is writing books and magazine articles. In our first year of operation, we produced nine books for five different publishers, including Bantam Books, Dow Jones-Irwin, and John Wiley & Sons. One of our books, *Ultimate Unauthorized Nintendo Game Strategies*, was a runaway hit at Christmas-time in 1989, making it to the No. 7 position on the B. Dalton best-seller list. We also produced magazine articles for six publishers. We have two major consulting contracts, one with a software company and one with a publisher.

I maintain the checkbook; Tom handles accounts receivable. We each maintain our own database of contacts, which we merge every few months. We have a stable of freelance writers and editors to whom we subcontract portions of projects. The flow of work between our two offices is not as easy to chart. A typical assignment begins with dividing tasks based on our particular areas of strength. We then pass back and forth portions of work in progress and somehow it all comes together.

NORTH-SOUTH COMMUNICATIONS

Communications between Massachusetts and Tennessee are smooth. We each have a facsimile machine and get notes and memos and reminders to each other almost instantly.

ON MY OWN Titles: JANUARY: *Part I, Leaving the Corporation*; FEBRUARY: *Part II, A Web of Insurance*; MARCH: *Part III, Keeping Business Records*; APRIL: *Part IV, Planning and Building an Office*; MAY: *Part V, Taking on a Partner*; JUNE: *Part VI, Pricing Myself to Sell*; JULY: *Part VII, Setting Up a Communications System*; AUGUST: *Part VIII, Shopping for Supplies*; SEPTEMBER: *Part IX, Making the Business Work*

neously, without having to stop what we are doing to talk on the phone.

We have 9600-bps modems at each end, which we use to transfer files, graphics, and financial statements. (We use an .ARC file-compression program to shrink files by as much as 50 percent whenever we can, which effectively doubles transmission speed.) Our biggest problem is the shaky telephone circuitry in my office in rural Massachusetts and Tom's in rural Tennessee. We use MCI Mail (at 2400 bps) for store-and-forward messages between our offices and to many of our clients and contract workers. We've also made good friends with our local Federal Express and UPS drivers.

Our future plans call for installation of private bulletin-board systems at each end of our network, possibly linked by a dedicated line. Someday, we tell ourselves, we'll have our own satellite link. We're also batting around the possibility of installing a pair of videophones that will add a personal touch to our six or eight daily phone conferences. Every morning we discuss projects and divvy up work. Several times during the course of the day we check in—and we usually do a wrap-up of the day's work before closing up shop.

No matter how much money we end up spending on telephones and shipping files from one office to another, we still figure it's hundreds or thousands of dollars cheaper than commuting to an office. And we still have money left over to pay for trips north or south every six to eight weeks.

"PARTNER INSURANCE"

Tom and I recognize that the success of our business is based on partnership, and we are therefore protecting each other—and our families—in case of an untimely end. We purchased individual life insurance policies, naming each other as beneficiaries. Some people call this partner insurance, but in our case we are not really partners but rather co-owners of a corporation. This insurance, of course, is separate from the life insurance that Tom and I have purchased to protect our families.

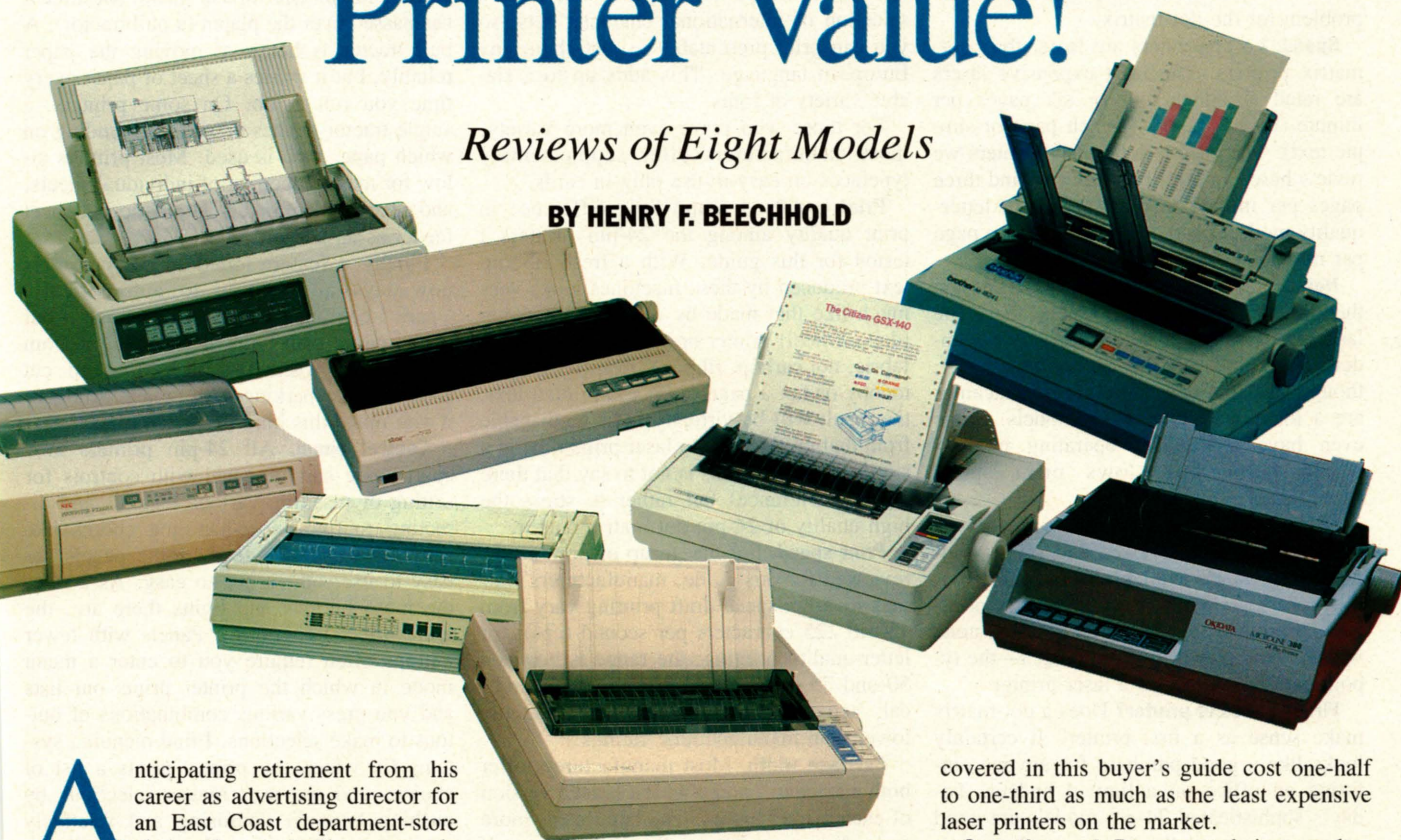
The bottom line is this: We are both living the lives we want to live in the places we want to be, and we're having a lot of fun as well. Tom's office is in an outbuilding across the driveway from his farmhouse in the foothills of the Smoky Mountains in Tennessee. My office is in the basement of my home in rural Massachusetts and in the den of our summer house on Nantucket Island, 30 miles out to sea.

The success of our corporate marriage, we surmise, is in part related to the fact that we are usually 1,200 miles apart. Most of our clients believe, I'm sure, that our offices are just like theirs, in a high rise in a concrete canyon. Only the Federal Express driver knows. ■

24-Pin Dot-Matrix: Great Printer Value!

Reviews of Eight Models

BY HENRY F. BEECHHOLD



Anticipating retirement from his career as advertising director for an East Coast department-store chain, James LoPinto recently decided to start a home-based catalog sales business. Part of his strategy was to acquire and master the equipment he would be using well in advance of actually starting up the business.

With the advice of a knowledgeable family member, he selected a computer, a 286 model from a reputable manufacturer. The next item on the agenda was a printer—surprisingly, a more difficult decision. His budget would accommodate a low-end laser printer, but only at the expense of other things he needed. After thinking it over—and checking out the market—he decided that a 24-pin dot-matrix printer would serve his needs. The print quality was fine; speed

The hot new breed of 24-pin printers: perfect for business start-ups.

was perfectly adequate. And he saved \$700, which became available for other equipment purchases. LoPinto was also attracted by the straightforwardness of the dot-matrix printer, which meant less of a learning curve. Once the business was up and running (and generating revenue), he thought, he could consider moving up to (and learning to operate) a laser printer.

DOT-MATRIX OR LASER—HOW TO CHOOSE?

Many people shopping for a printer these days are doubtless pondering the question of laser versus dot-matrix. Here is a quick comparison that should help in working through it:

Initial cost. The 24-pin dot-matrix printers

covered in this buyer's guide cost one-half to one-third as much as the least expensive laser printers on the market.

Operating cost. Paper costs being equal, a laser printer costs more to run than a dot-matrix. For a laser, toner (powdered ink) must be replenished and its photosensitive drum must be replaced periodically. This adds up to between two and three cents a page. The cost of ribbons, the only expense for dot-matrix owners, is negligible.

Text print quality. For many people, quality is the most important consideration. Without the addition of expensive fontware, most laser printers turn out text that looks like it came from a typewriter—which is what most business printing looks like.

Today's new 24-pin dot-matrix printers turn out typewriter-style text that looks nearly as good as laser output—certainly good enough for the vast majority of business documents. Only you can answer the question, How good is good enough?

Graphics print quality. Today's 24-pin

Contributing editor HENRY F. BEECHHOLD regularly reviews hardware for HOME-OFFICE COMPUTING.

dot-matrix printers print graphics, but laser printers produce vastly superior graphics in virtually any application. The relevant question, again, is, How good is good enough?

If you need to print charts and graphs for an in-house report, for example, you'll probably find a dot-matrix perfectly adequate. If you need to print professional presentations, you probably won't.

Paper handling. Laser printers print on cut-sheet paper only. Printing envelopes can be awkward with a laser; printing multipart forms is impossible. Dot-matrix printers can print cut sheets and envelopes or continuous forms of any length; multipart forms are no problem for the dot-matrix.

Speed. Laser printers are faster than dot-matrix printers. The least expensive lasers are rated at either four or six pages per minute (for an 8.5-by-11-inch page of simple text). The 24-pin dot-matrix printers we review here can print between two and three pages per minute in draft mode. In letter-quality mode, speed drops to about one page per minute.

Noise. Dot-matrix printers are noisy; there's just no way to get around that. The laser printer's whisper quietness is a wonderful luxury. It's worth pointing out, though, that the newer dot-matrix machines are a lot quieter than older models. Some even have a "quiet" operating mode—which helps but slows print speed significantly.

Font variety. Laser printers can create type in a vast variety of sizes and styles—approaching what's available from professional typesetters. While most dot-matrix printers can print in several different fonts, none will ever match—or even approach—the typographic versatility of a laser printer.

First or second printer? Does a dot-matrix make sense as a first printer? It certainly looks like a good purchase for anyone outfitting an office on a limited budget. Today's sophisticated 24-pin models are good enough to serve as the principal office printer for many businesses and really don't need to apologize for their typographical quality.

If you already own a dot-matrix printer, does it make sense to upgrade to a better one? This is less clear. I'd give much more serious consideration to a laser printer in this circumstance, keeping my dot-matrix around as a backup, and to do the things a laser printer can't do.

WHAT SHOULD I LOOK FOR IN A 24-PIN PRINTER?

If you're still reading this, you're at least considering the dot-matrix alternative. If so, you've got lots of models to choose from. How can you sort them out? On the basis of price, availability, and features, of course. Let's look at printer features in detail.

Fonts. What most manufacturers call fonts are more properly called typefaces—alpha-

bet designs. Examples are Courier, Prestige, and Letter Gothic. Dot-matrix printers are designed to print a given typeface in a variety of pitches (sizes), styles (bold, italic, or shadow, for example), and character sets (such as English, French, or German).

Most current 24-pin printers offer at least three typefaces; some offer many more, including styles similar to Helvetica and Times Roman, and exotics like bar codes and optical-character-recognition (OCR) fonts. All offer at least three basic print sizes: 10 and 12 characters per inch (also known as pitch) and one or more smaller sizes, such as 15 or 17 pitch. All offer a selection of international character sets, so you can print presentably in just about any European language. This adds up to a sizable variety of fonts.

For those who crave even more variety, most manufacturers offer supplementary typefaces on easy-to-use plug-in cards.

Print quality. I found little difference in print quality among the 24-pin printers I tested for this guide. With a fresh ribbon, text produced by these machines looks very much like that made by a formed-character (daisy-wheel) printer or a typewriter (with a fabric, not carbon, ribbon). And if you photocopy or fax a page of 24-pin-printed text, the result will be virtually indistinguishable from that produced by a laser printer using a similar typeface. This is not to say that there are no differences but rather to stress the high quality of 24-pin dot-matrix output.

Print speed. For the group of printers we reviewed for this guide, manufacturers' ratings for high-speed draft printing vary from 150 to 225 characters per second (cps); for letter-quality printing, the range is between 50 and 75 cps. (These figures are theoretical; actual print speeds are substantially lower than manufacturers' ratings.)

Carriage width. Most manufacturers offer both a standard- and a wide-carriage version of each printer model. The latter costs more and takes up substantially more space. If you use wide forms in your business primarily for spreadsheets, you might be better off with a standard-carriage printer and a side-ways printing utility (now included as a standard feature in several popular spreadsheet programs).

Paper handling. In the early days of dot-matrix printers, most units were designed for continuous paper to be fed from the back, single sheets from the top. These paper paths are still standard, but some printers allow for front or bottom feed or both.

Bottom feed is fairly common nowadays. It allows paper to be fed from beneath a printer stand with a slot, which means that printer and paper can share the same air space. But it has another virtue: It provides a straight paper path, minimizing the likelihood that pressure-sensitive labels will peel off while going around sharp bends inside

your printer (which creates no end of trouble). If you'll be printing lots of labels, look for a printer with a bottom-feed slot.

Front paper feed is, in some cases, merely a handy alternative to back feed for continuous forms. Some printers, however, use a front feed specifically for cut sheets and envelopes.

Paper tractors. Another more important paper-handling consideration is the mechanism that drives continuous forms through the printer. All of today's 24-pin printers provide a tractor mechanism to move the forms through, either before the paper reaches the platen (a push tractor) or after it has passed over the platen (a pull tractor). A pull tractor is better at moving the paper reliably, but it wastes a sheet of paper every time you run a job. On some printers, a single tractor pushes or pulls, depending on which paper path is used. Most printers allow for manual feeding of individual sheets, and nearly all offer an automatic cut-sheet feeder as an add-on.

Finally, a feature found on many printers nowadays allows you to automatically "park" continuous feed paper (move it out of the paper path without removing it from the printer) when you need to feed cut sheets. Paper parking saves much drudgery if you make this kind of switch often.

Control panel. All 24-pin printers now sport some sort of panel with controls for setting or resetting various features and directing routine paper-handling chores like form feed and line feed. Some panels are easy to use, others not so easy. As a rule, the more buttons and lights there are, the more direct the control. Panels with fewer buttons often require you to enter a menu mode in which the printer prints out lists and you press various combinations of buttons to make selections. I find menuing systems (in which the printer prints a list of choices and the user makes selections by pushing buttons) confusing and relatively cumbersome. Incidentally, your software can often handle many printer settings, such as font and pitch.

Some printers require that you configure desired defaults by means of DIP switches. In some cases these are easily accessible; in some, they aren't. In any case, this method is not nearly as convenient as configuration through a good control panel.

Interface. Some printers include a serial interface in addition to the standard Centronics parallel connection. Where it's not included, it is invariably offered as an extra-cost option. Unless your printer is going to be shared on a network, there's no reason to use the slow and cumbersome serial interface, a leftover from the bad old days.

WHAT MODEL SHOULD I BUY?

If you have \$500 to spend on a dot-matrix printer, you can have it all. By *all*, I mean a

substantial inventory of typefaces and styles, sophisticated paper handling, high-resolution graphics, a well-thought-out control panel, even a wide carriage. With \$350—or less—you can have it all except the wide carriage.

Price is a major consideration for most people. Keep in mind that some printers, most notably the Epson and the Panasonic,

are more heavily discounted than others.

In sorting out features, consider whether or not a large selection of fonts is important to your work. And how about speed? If you're mostly going to be printing out letters and memos, speed is probably not important. If you are going to be doing high-volume printing, it is. If you plan to print lots of labels, look for a printer with a

bottom-feed slot. Will you be printing multipart forms? If so, a reliable pull tractor is a great asset. Finally, ease of setup (in the form of a good control panel) is desirable no matter what your work style or work load.

While there are differences in features and value, we're confident that any one of the printers reviewed here would serve you well in terms of print quality and reliability.

TWENTY 24-PIN DOT-MATRIX PRINTERS: A SUMMARY OF FEATURES

The 20 printers covered in this chart constitute a substantial cross section of the moderate-duty 24-pin dot-matrix market. No major supplier or important available model is omitted. With the exception of the Epson LQ-2550 and the Toshiba P351SX (both expensive, high-performance units), these printers are substantially less costly than the low-end laser printers with which they are increasingly in competition. Each printer is equipped with a tractor-feed mechanism, each allows friction (typewriter-style) feeding of single cut sheets, and each offers an optional cut-sheet feeder.

Product	Phone	Suggested Retail Price	Emulation(s)	Rated Print Speed (characters/second, at 10 pitch)		Built-In Typefaces	Tractor Type; Paper Feed	Paper Width (min/max, in inches)	Buffer	Options	Dimensions (width/depth/ height in inches)	Warranty (months)
				LQ	Draft							
STANDARD-CARRIAGE PRINTERS												
AEG Olympia NP 80-24 (reviewed Mar. 1990)	(201) 213-8300	\$599	Epson-LQ, IBM-PP	57	170	4 LQ, Draft, OCR	Push; rear, top	4/10	24K	CSF (\$219), FC (\$79), 32K B (\$40)	17.1 by 13.8 by 5.1	12
ALPS ALQ224e	(408) 432-6200	\$875	Epson-LQ	64 ¹	200 ¹	2 Draft	Push-pull; bottom, rear	none/11	23K	CSF (\$175), FC (\$55), 64K B (\$95),	18.5 by 15.8 by 5.6	12
Brother M-1824L*	(201) 981-0300	\$749	Epson-LQ, IBM-PP, Diablo	75	225	4 LQ, Draft, OCR	Push; rear, top	3/11	32K	CSF (\$280), PI-T (\$129), FC (\$155), CK (\$78)	18.9 by 15.3 by 6.1	12
Citizen GSX-140*	(213) 453-4614	\$499	Epson-LQ, IBM-PP	53	160	4 LQ, Draft	Push-pull; bottom, rear, top	4.5/10	8K	CSF (\$59, \$169), CK (\$59), 32K B (\$69)	16.9 by 12.6 by 5.1	24
Epson LQ-510*	(213) 539-9140	\$529	None	50	150	2 LQ (+ pptl), Draft	Push; rear	4/10	8K	CSF (\$129), FC (multi \$99, single \$59), PI-T (\$59), 32K B (\$185)	16.5 by 13.7 by 5.5	12
Epson LQ-850 (reviewed Apr. 1988)		\$799	None	73	220	2 LQ (+ pptl), Draft	Push; rear	4/10.1	6K	CSF (\$209), FC (multi \$99, single \$59), PI-T (\$69)	17 by 14.2 by 5.6	12
IBM Proprinter X24 (reviewed Feb. 1989)	(800) 426-2468	\$899	None	67 ¹	206 ¹	1 LQ, Draft	Push; rear, top	3/16.5	14K	CSF (\$208), FC (\$144)	16.5 by 13.8 by 5.3	12
NEC P2200XE*	(508) 264-8000	\$499	Epson-LQ	54	160	7 LQ, Draft	Push-pull; front, rear	5/10	8K	CSF (\$152), FC (single \$50)	15.4 by 10.8 by 5.5	12
Okidata Microline 380*	(609) 267-3535	\$529	Epson-LQ	52 ¹	155 ¹	6 LQ, Utility	Push; bottom, rear, top	3.5/10.5	8K	CSF (\$169), PI-T (\$55)	15.7 by 13.6 by 4.7	12
Okidata Microline 390 (reviewed Feb. 1989)		\$699	Epson-LQ, IBM-PP	75	225	2 LQ, Draft	Push; bottom, rear, top	3/10	23K	CSF (\$299), PI-T (\$55), FC (\$49)	15.7 by 13.6 by 4.6	12
Panasonic KX-P1124 (reviewed Feb. 1989)	(201) 348-7000	\$500	Epson-LQ, IBM-PP	53	160	5 LQ, Draft	Push-pull; front, bottom, rear, top	4/11.7	6K	CSF (\$170), 32K B (\$60)	16.9 by 14.1 by 5.6	24
Star Micronics XB-2410 Multi-Font (reviewed Nov. 1989)	(212) 727-2500	\$749	Epson-LQ, IBM-PP, NEC Graphics	67	200	11 LQ, Draft, 2 OCR, Bar code	Push; rear, top	3/11.7	27K	CSF (\$160), PI-T (\$50), 32K B (\$139), CK (\$50)	17.8 by 13.4 by 5.5	12
Tandy DMP 240		\$550	Epson-LQ, IBM-PP X24	64	192	4 LQ, Draft	Push-pull; bottom, rear, top	4/10	8K	32K B (\$50)	16.9 by 12.6 by 5.1	3
Tandy DMP 300*	(817) 390-3011	\$649	IBM-PP	75	225	2 LQ (+ pptl), Draft	Pull; rear, top	3/10	16K	CSF (\$300)	15.7 by 13.6 by 4.6	3
Toshiba P321SLC (reviewed Feb. 1989)	(714) 583-3000	\$899	IBM-PP/GP, Qume	62 ¹	186 ¹	2 LQ (+ pptl), Draft	Push; rear	4/10	32K	CSF (\$349), 32K B (\$99), FC (\$395)	16.3 by 15 by 3.9	12
WIDE-CARRIAGE PRINTERS												
Epson LQ-2550	(213) 539-9140	\$1,499	None	111	333	5 LQ, 2 OCR, Draft	Push; rear	4/16	8K	CSF (\$529), PI-T (\$99), 32K B (\$185), CK (\$28)	26.6 by 20.4 by 7.7	12
Panasonic KX-P1624*	(201) 348-7000	\$700	Epson-LQ, IBM-PP	53	160	5 LQ, Draft	Push-pull; front, bottom, rear, top	4/16.5	12K	CSF (\$240), 32K B (\$60)	23.2 by 15.7 by 5.6	24
Star Micronics NX-2415 Multi-Font*	(212) 727-2500	\$699	Epson-LQ, IBM-PP	56	167	4 LQ, Draft	Push; rear, top	4/16.5	11K	CSF (\$249), PI-T (\$59), FC (\$119), 32K B (\$139)	23.2 by 13.1 by 5	12
Tandy DMP 2102	(817) 390-3011	\$999	IBM-PP	75	225	2 LQ (+ pptl), Draft	Push; rear, top	3/16	16K	CSF (\$300)	21.7 by 13.6 by 4.6	3
Toshiba P351SX (reviewed June 1988)	(714) 583-3000	\$1,499	IBM-PP/GP, Qume	103 ¹	310 ¹	3 LQ (+ pptl), Draft	Push-pull; rear	4/16	32K	CSF (\$499), CK (\$239), FC (\$395), 32K B (\$99)	22.8 by 14.8 by 5.7	12
*Reviewed in this issue. 1. Manufacturer provided speed rating at 12 pitch only; HOME-OFFICE COMPUTING converted rating to 10-pitch equivalent. KEY: Epson-LQ = Epson LQ series; IBM-PP = IBM Proprinter series; IBM-GP = IBM Graphics Printer; LQ = letter quality; OCR = optical character recognition; pptl = proportional spacing; CSF = cut-sheet feeder; PI-T = Pull tractor; CK = color kit; FC = font cartridge; B = buffer.												

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Reviews of Eight Versatile 24-Pin Dot-Matrix Printers



Brother M-1824L

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$749

The Brother M-1824L, while lacking sparkle, is a good all-around printer. It weighs in at the heavy end of the scale for standard-carriage dot-matrix printers and gives me the impression that it was designed to stand up to punishment. It is also far and away the most expensive standard-carriage printer reviewed for this buyer's guide.

The M-1824L's print speed, while not the fastest, is significantly higher than that of most of the tested units. Its print quality didn't cause it to stand out from the pack, except when I used the (optional) carbon film ribbon. The printer provides a generous selection of letter-quality fonts plus a special OCR font and a high-speed draft font. (Eleven more typefaces are available on an optional font cartridge.)

Configuring this printer is a piece of cake. The control panel, with its plain-English, liquid crystal display (LCD), is outstanding. Every printer should have one like this. You'll need the manual only for a few minutes, which is fortunate, since manuals have never been a strong suit for Brother, and this one does not break from that tradition. The information is there, but it's not very well expressed or presented.

While the M-1824L is in all respects a capable printer and is perhaps more rugged than some of its competitors, its conspicuously high price doesn't seem justified by its capabilities and features.

PROS: Excellent LCD menuing system; faster than most printers reviewed

CONS: Mediocre manual; high price

Citizen GSX-140

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$499

The GSX-140 is surely among the most feature-laden printers available. Its street price (about \$350) makes it irresistible.

This printer's paper handling is first-rate. Loading of continuous paper is quick and sure—the best I've seen. And at the end of a print job, the GSX-140 advances the paper to line up the perforation precisely with the tear bar, so you can tear your pages off without fooling with the platen knob. When you send another document to the printer, the paper automatically returns to its proper start-up position. Ingenious. If you need to feed single sheets, a paper-parking feature allows you to do so without unloading the fanfold stock.

Another outstanding feature is the printer's control panel, which uses six keys to call up about 75 plain-English prompts that appear in a liquid crystal display. If you prefer, you can set up the printer with Citizen's *Printer Control Utility* program, provided on a 5.25-inch disk.

The GSX-140's output quality is on par with the competition's. The printer's speed is average for this group of 24-pin personal printers. Its selection of fonts is generous, but not lavish. Unlike some competing models, the GSX-140 makes no provision for adding fonts, either through plug-in cards or downloadable font files, but I don't see this as a major limitation. One of many nice touches is a reversible tractor feed that can be set up to push or pull forms through the printer.

★ **EDITORS' PICK** ★



The user's manual is among the better ones with respect to explanatory detail and general information, but it would benefit from larger drawings.

PROS: Excellent paper handling; excellent front-panel menuing system; user-definable setup macros; compact size; two-year warranty

CON: Typeface limitation (no font cards or downloadable fonts available)

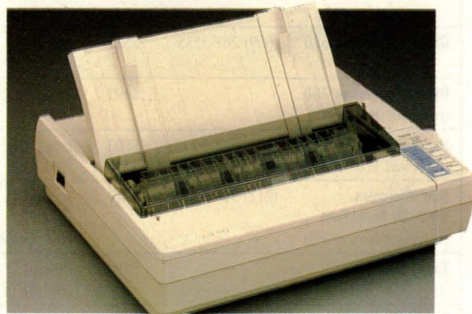
Epson LQ-510

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$529

In the early days of personal computers, the terms *dot-matrix printer* and *Epson* were pretty much synonymous. Epson was one of first in the game and still holds the lion's share of the market. The LQ-510, Epson's least expensive 24-pin model, is compact, well made, and capable.

This printer is no roadrunner: Its draft print speed is on the slow side; its print



speed in letter-quality mode is the slowest of all printers tested. What's more, the LQ-510's stock of built-in typefaces is among the smallest. Print quality, however, is excellent. The optional Multi-Font Module (\$99), which was provided with the unit for testing, is a small plug-in cartridge containing seven additional letter-quality fonts.

The LQ-510's control panel is quick and easy to use for run-of-the-mill adjustments such as font changes, but some routine settings—pitch changes, for example—require DIP switch settings. Although the switches are easily accessible (under a little door), they are tiny, and the procedure is a drag.

Epson has paper handling down cold, so whether you're using fanfold paper or cut

sheets, the LQ-510 operates reliably. There is paper parking so you can use single sheets without unloading your fanfold paper. Never did the printer even hint at jamming. The automatic sheet feeder runs as smoothly as the main paper drive.

The User's Manual is top-of-the-line. This ring-bound beauty is clearly the work of professionals who know what they're about. The manual is thorough, the two-color artwork is sharp, and the text is clear and informative. A second, smaller manual, Application Notes, helps you set up the printer to take advantage of the typographic capabilities of all the big-name word-processing programs (*WordPerfect*, *WordStar*, and the rest).

PROS: Reliable paper handling; shadow and outline print enhancements; excellent manual; widely available

CONS: Slow; limited number of built-in typefaces; DIP switch settings required for routine setup changes

NEC Pinwriter P2200XE

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$499

This latest member of the venerable Pinwriter line is quiet, compact, and loaded with fonts and features. At 12 pounds, this little beauty is truly a lightweight among office printers. I wondered, in fact, whether a printer as light as this could stand up to heavy-duty use. But NEC claims a print-head life of 100 million characters and a 4,000-hour mean time before failure (MTBF), which works out to 500 eight-hour days. So I'd say that if you like what this printer offers, you needn't worry about its longevity.

One of the Pinwriter's strengths is its dazzling variety of fonts and print enhancements. The number of possibilities using built-in fonts alone comes to 270 (plus superscript and subscript). The print quality is good. And should you need special type-



faces like OCR, bar code, or Greek/tech versions of the (standard) proportional faces Times and Helvette, you can add them via optional font cartridges.

The simple control panel uses four membrane keys to make basic selections, like

spacing and draft versus letter quality. All other settings are made through an interactive, printed menu system. To change a given default, you enter the menu mode from the front panel and the P2200XE prompts you (from a printed menu) to press the necessary keys to get the changes you want. It does the job, but this system is not nearly so convenient as an LCD control panel.

I found the paper-handling system about as convenient to use as any I've tested. The only paper route not provided is straight up through the bottom of the printer. The printer's autoloading feature does most of the work for you without mangling the paper. The P2200XE also has paper parking.

The wire-bound manual, one of the best in the trade, is packed with information and illustrations and is supplemented by a plastic reference card. Included with the P2200XE is a thick foam mat to dampen printer vibration—a thoughtful accessory.

PROS: Excellent paper handling; biggest selection of typefaces; compact size; good documentation; good value

CON: Cumbersome printout-style setup menu



Okidata Microline 380

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$529

Okidata is a long-time player in the dot-matrix printer game and has acquired a solid reputation for solid products. If you find its price, features, and appearance to your liking, you can feel confident that the Microline 380 will behave reliably and that the company will do likewise.

The strongest feature of this printer is print quality. No dot-matrix printer yet can match the look of either a formed character (daisy-wheel) or laser printer, but the 380 comes as close as any I've tested.

The six native letter-quality typesets provide the basis for an almost limitless number of actual print styles, since there are 13 character sets, five pitches (plus proportional), compression and expansion, shadow and outline, italics, and underlining. Letter-

quality print speed is average, but the "utility" mode (there is no draft) is only marginally faster. If you need a printer that can spit out long documents reasonably quickly, pass on this one.

You may find (as I did) that the built-in push tractor is hard to get at. I had some difficulty loading continuous paper into the 380 for this reason, and experienced some paper jams as a result. If you have free access to the back of the printer, this should be less of a problem. Adding the inexpensive, optional pull tractor enables you to use the bottom feed.

You can feed single sheets into the ML 380, and with the optional cut-sheet feeder, you can stack them. The paper-parking mechanism gets continuous-form paper out of the way while you're printing cut sheets.

Okidata rates the user-replaceable print head at 200 million characters, an extraordinarily high value.

Documentation for the 380 is less than wonderful. The manual is indexed and fairly well illustrated but it's just not up to the quality of many others.

Okidata provides service through dealers, Okidata service centers, and Xerox service centers. The company provides a toll-free number for customer service problems.

PROS: Excellent print quality and type-style variety; long print-head life

CONS: Awkward paper loading; mediocre documentation; utility mode substantially slower than most draft modes

Panasonic KX-P1624

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$700

Panasonic has long since proven itself to be a maker of cleverly designed and well-made computer products. From the standpoints of price and functionality, the KX-P1624 warrants serious consideration from anyone in need of (and with the space for) a wide-carriage printer.

At 32 pounds, this is a hefty hunk of printer—suggesting reliability, a judgment reinforced by the two-year warranty.

The KX-P1624 requires no fiddling with DIP switches. Just plug it in and go, using an Epson LQ-2500 or an IBM Proprinter XL24 driver, either of which can be found in almost any popular software package. To make changes in the printer's defaults, get out the manual and go to work on the control panel, which uses seven keys and 12 LEDs. I found this EZ-Set Operator Panel less than EZ, but it did the job. Actually, it's not so much the design of the panel as the explanation in the documentation that's the problem. The manual is not one of the best around.



The KX-P1624's typeface selection is quite generous, and print quality is good—just a hair below the best. Fixed pitch and proportional spacing, character compression and expansion, super- and subscripting, and international character sets are part of the KX-P1624's toolkit of printing enhancements. Print speed is right in the middle of the pack.

The KX-P1624's macro feature allows you to program the printer with up to three complete sets of defaults (font, pitch, form length, line spacing, and margins)—each instantly accessible from the front panel.

Paper handling for the KX-P1624 is outstanding. You can feed from the top (single sheets and envelopes), back, front, or bottom. The tractor (which pushes or pulls, depending on the paper path) and the friction feed work easily; paper loading is simple and convenient. And, like most of the other printers tested for this guide, the KX-P1624 offers paper parking. Finally, a front-panel key marked P-CUT rolls the paper up so the perforation lines up precisely with the tear bar, then rolls it back to proper printing position. Nice.

PROS: Excellent paper handling; setup macro feature

CONS: Confusing setup documentation; complicated control panel

Star Micronics NX-2415 Multi-Font

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$699

Star Micronics covers the printer market from bottom to top, offering reliable products to suit virtually any business printing requirement in any price range. The NX-2415 is the company's latest 24-pin, wide-carriage printer, modestly priced for its size and capabilities.

I tested the NX-2415 using the IBM Proprinter emulation and it ran with nary a hitch. Configuration changes are made using either the front control panel or the DIP switches located inside the printer or both. (Setting up the automatic sheet feeder, for example, requires a DIP switch setting.) Despite a printed legend, I found the control panel confusing to use.

Print quality is on a par with printers of this type; speed is average for the tested

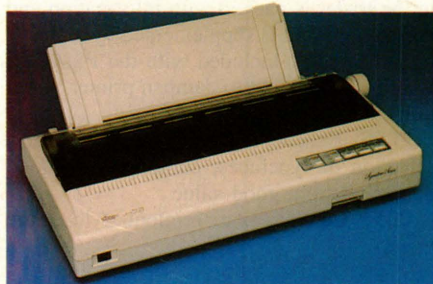
group; font selection is certainly adequate, if not lavish. Pages produced with the NX-2415 will look clean and professional and will flow from the printer at a respectable pace. The buffer size—11K—is generous.

The NX-2415's manual is adequate—certainly not the best around, but not the worst either. The drawings, fortunately, are large and clear.

This is not a particularly sexy piece of equipment (except in its exterior design). It's just a good, solid printer that should cover most wide-carriage printing tasks.

PROS: Availability of font cards, ability to download soft fonts

CONS: Cumbersome control panel; some functions must be set via DIP switches; optional pull tractor tends to misfeed paper



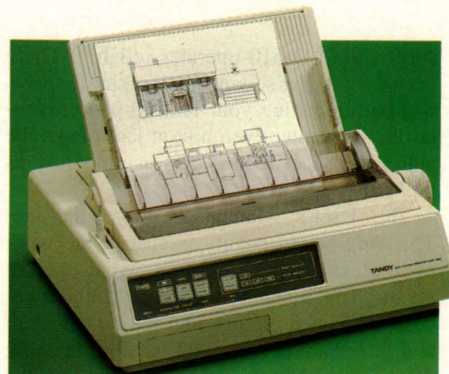
Tandy DMP 300

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$649

In terms of basics such as construction, print quality, print speed, and paper handling, the DMP 300 should be classed with the best of the 24-pin printers. The printer's heft promises a long, heavy-duty working life. The DMP 300 is the fastest of the printers tested—by a substantial margin. The printer has 48K of memory: a 16K buffer and 32K of downloadable-font space.

The Tandy's inventory of typefaces (Courier and Prestige only—in both fixed and proportionally spaced versions) is meager compared to most of the other tested printers'. And it is ironic, since Tandy built in memory space for downloadable soft fonts,



that the company makes no additional typefaces available. The DMP 300's native typefaces can be supplemented only with third-party software.

The control panel is of the status-light-and-membrane-key type. It makes certain basic operations, such as setting pitch and switching between draft and letter quality, quite simple. For more extensive setup changes, you'll need to rely on the manual and the associated printouts. Unfortunately, the DMP 300's manual is not so good as the printer. Like so many other manuals, it almost seems to be an afterthought.

The CSF 300 single-bin cut-sheet feeder is one of the best around. It's well made, operating consistently without misfeeding or jamming. Since this feeder can fit both wide- and narrow-carriage printers, you have to do a little screwdriver work to set it up. It requires an electrical connection to the printer itself.

A big plus in buying Tandy equipment is that the company has a huge network of stores and service centers. Minuses are the somewhat inflated list prices of these products and the fact that Radio Shack's discounting is done principally through occasional advertised sales. The warranty—90 days—is skimpy.

PROS: Fastest printer in our tests; solid construction; reliable paper handling; extensive dealer network

CONS: Limited typeface choice; mediocre manual; comparatively high price, no discount; short warranty

EDITOR'S NOTE

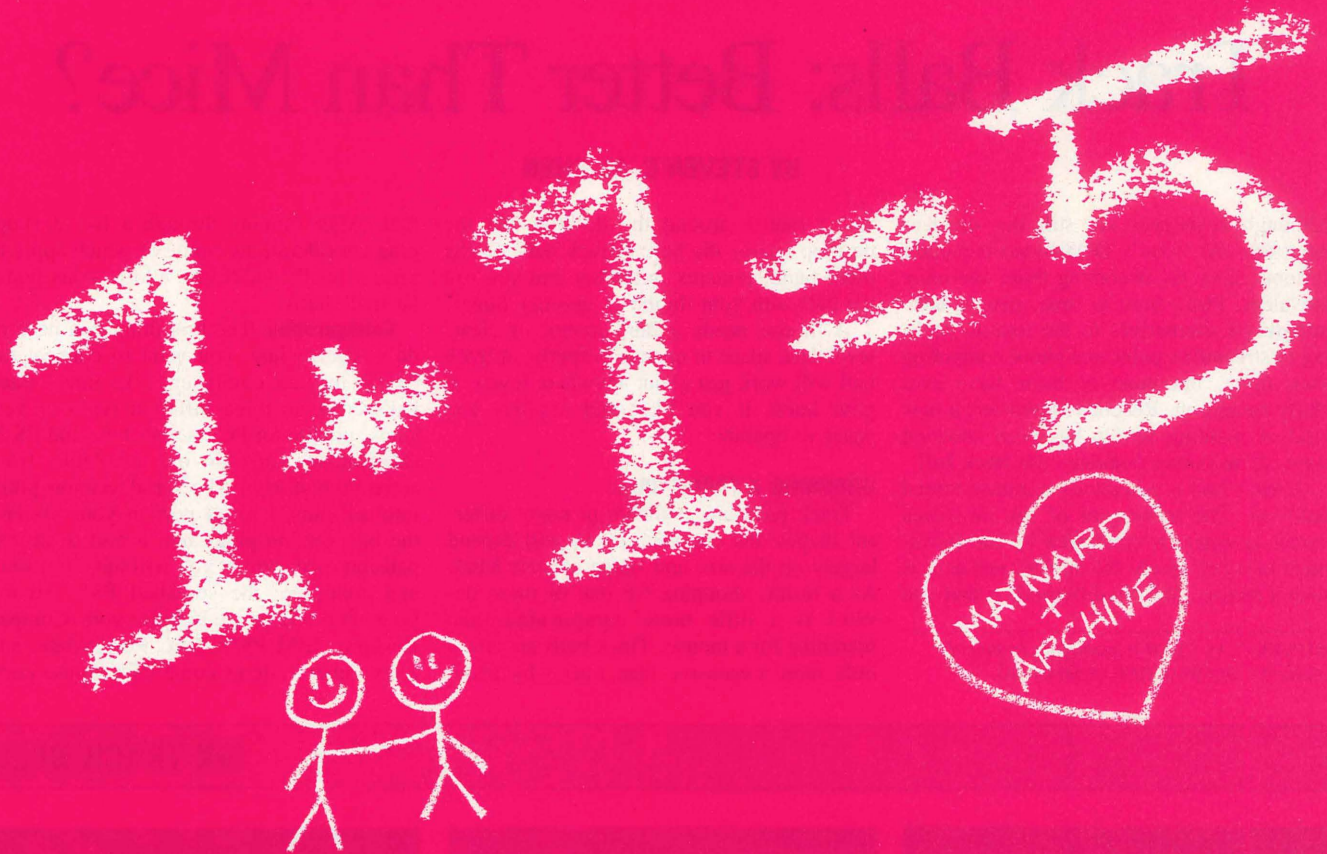
Shortly before press time, we received Tandy's newest low-cost 24-pin dot-matrix printer, the DMP 240. A quick examination revealed that this printer is identical to the Citizen GSX-140, except for a few minor cosmetic details. Tandy has positioned the DMP 240 as a color printer: The color kit, available as a moderately priced option for the Citizen, is included with the Tandy version. Tandy's package lists for about \$50 more than the GSX-140.

In quick tests, we determined performance for the two printers to be identical.

Thus, all our enthusiastic comments about the GSX-140 can be applied equally to the DMP 240.

Tandy has produced its own documentation for the DMP 240. Overall, it is clear and complete, giving detailed instruction on setup and specific recommendations on emulations for specific software packages.

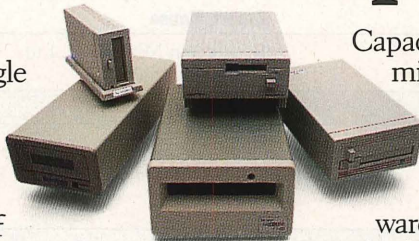
Unfortunately, because of a long-standing policy, Tandy's warranty for the DMP 240 is only 3 months (as compared with Citizen's 24-month warranty for the GSX-140), a significant drawback to an otherwise excellent product. ■



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Track Balls: Better Than Mice?

BY STEVEN C. M. CHEN

Although keyboards are still the standard input tool for today's DOS-based computer systems, mice are becoming more and more prevalent. From time to time, people have introduced alternatives to the mouse, seeking to streamline point-and-shoot computing even more, but none of these have ever really caught on. Recently, however, a new kind of pointing device has been showing signs of becoming popular—the track ball.

A track ball is essentially a mouse turned belly-up. The movement of the on-screen cursor (pointer) is controlled by the movement of a ball inside the device, just as it is with a mouse. The big difference is that you

roll a mouse around the desktop and the desktop moves the ball; a track ball, on the other hand, remains stationary and you roll the ball with your thumb or another finger.

A mouse needs a fair amount of clear, level desk space to operate properly. A track ball will work just about anywhere (even on your knee, if you like) and requires less space to operate.

CHOOSING A TRACK BALL

Track balls are available in many different shapes; the one you choose will depend largely on the size and shape of your hand. As a result, shopping for one of these devices is a little more complicated than searching for a mouse. Track balls are also a little more expensive than mice—by about

\$20. After running through a list of shopping considerations (some of which apply to mice as well), we'll take a look at six popular track balls.

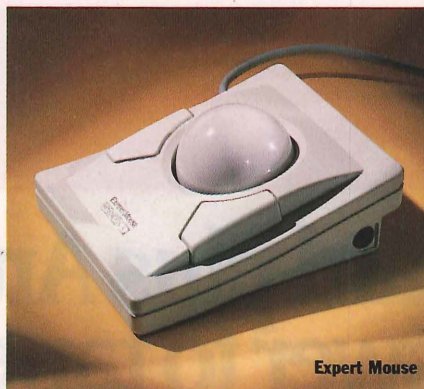
Configuration. The first thing you need to do is decide how you want to connect the device to your computer. Like mice, track balls come in three different types or versions suitable for PCs: serial, bus, and PS/2. (Macintosh versions are available from some companies.) The serial version plugs into an unused serial port in your system; the bus version plugs into a port in an expansion card, which you will have to install and configure; the so-called PS/2 version plugs into a dedicated mouse port (Compaq Deskpro, IBM PS/2, NEC PowerMate, and a few other systems come with mouse ports

STEVEN C. M. CHEN is managing technical editor for HOME-OFFICE COMPUTING.

SIX TRACK BALLS:



RollerMouse



Expert Mouse



Trackball

	RollerMouse	Expert Mouse	Trackball
Manufacturer	CH Products, Inc. (619) 598-2518	Kensington Microware, Ltd. (212) 475-5200	Kraft Systems, Inc. (619) 724-7146
Rating	★ ★ ★	★ ★ ★	★ ★
Price: Serial	\$130	N/A ¹	\$120
Bus	\$150	N/A ¹	N/A
PS/2	\$130	\$170	N/A
Macintosh	\$120	N/A	\$140
Resolution: Hardware	200 dpi	200 dpi	200 dpi
Software	100 to 400 dpi	N/A	10 to 1,150 dpi
Number of Buttons	Four	Two	Four
Warranty	One year	One year	Five years
Review	Good design with large ball. It feels comfortable under our hands. Button arrangement is slightly different from others. The additional click-lock button is right above the click button.	Good design, with base shape conforming to the shape of the hand. Optical-mechanical design contributes to higher cost but doesn't seem to make for more precise control.	Compared to others reviewed, this track ball fell short. The location of the buttons—about an inch below the ball—is the main problem. An optional foot pedal (controlling the click-lock feature) is available for \$10.

as standard equipment). Bus versions are invariably more expensive (by about \$10), since an expansion card is supplied as part of the package. This is the logical choice only if your system has neither a dedicated mouse port nor an available serial port. If your computer has a mouse port but the track ball you favor is not available in that configuration, you can work around the problem: Either purchase the serial version (if you have an available serial port) or go with the bus version and just don't install the card. The dedicated mouse port is really just a built-in bus connection.

Resolution. The higher the resolution (measured in dots per inch [dpi]), the less rotation the ball requires to move the cursor around the screen. Moving the cursor from one side of the screen to the other might require several strokes of the thumb or finger at low resolution, while at a higher resolution, one stroke might get you there. Resolutions of 200 to 400 dpi are typical—and sufficient.

But that's just the hardware end of it;

track-ball-operating software can also play a big part in *effective* resolution. Some software can detect acceleration of the track ball mechanism (its sensitivity). When you move the ball quickly, the software increases the ratio of screen-pointer motion to track-ball motion, automatically adjusting the sensitivity or acceleration level. In my tests the default settings worked fine.

Microsoft Mouse Compatibility. The Microsoft Mouse is the most popular pointing device today. Consequently, many software packages include drivers for it. Thus, any Microsoft Mouse-compatible track ball will work with any of those packages. All of the track balls reviewed here are Microsoft Mouse compatible. Just be aware that if you don't have Microsoft Mouse compatibility, you may have difficulty working with some applications that do support it. I had no problems at all.

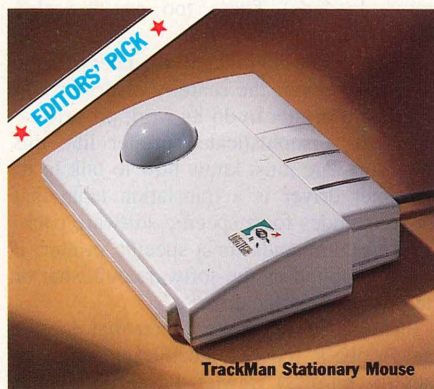
Software. All track balls come with a driver that must be added to your AUTOEXEC.BAT or CONFIG.SYS file. Usually an installation program takes care of

these details for you. Included memory-resident programs allow you to adjust the track ball's sensitivity on the fly. Most models include mouse menus for software applications that do not directly support mice (Lotus 1-2-3, for example) and some include software or details for creating custom menus. In general, if an application supports a mouse, it will support a track ball.

Buttons. All track balls have buttons, just like mice. The number of buttons really isn't important for most users, but their location is. This will probably be a major factor in your final decision. The size of your hand makes a big difference here. (Mice and track balls are designed for both left- and right-handed people.) We'll address this in detail in the individual reviews.

Click-Lock. It's easy to move a mouse around the desk while holding down the button (known as dragging). It's much more difficult to do the equivalent with a track ball. Up-to-date track balls all include some sort of click-lock feature to simulate the holding down of the button. ■

A SIDE-BY-SIDE COMPARISON



	TrackMan Stationary Mouse	PC-Trac	PC Trackball
Manufacturer	Logitech, Inc. (415) 795-8500	MicroSpeed, Inc. (415) 490-1403	Mouse Systems Corp. (415) 656-1117
Rating	★★★★	★★★★	★★
Price: Serial	\$139	\$119	\$119
Bus	\$149	\$139	\$139
PS/2	N/A	\$119	\$119
Macintosh	N/A	N/A	N/A
Resolution: Hardware	300 dpi	200 dpi	200 dpi
Software	50 to 19,200 dpi	50 to 1,000 dpi	20 to 6,400 dpi
Number of Buttons	Three	Three	Three
Warranty	Two years	One year	One year
Review	A definite departure from traditional track-ball design. When we rest our hand on the unit, everything falls in the right place: thumb on the ball and fingers on the buttons. This unit is our favorite.	The sleek racing-car look of this track ball got our attention immediately. The unit also happens to be one of the most comfortable of the six. The sculpted design fit our hands well. Outstanding.	A compact unit, but not right for our large hands. If MSC doubled the size of the buttons and made the base larger it would be fine. This is the only track ball we reviewed that comes with a drawing program.

KEY: 1. Serial and bus versions will be available in July 1990. Dpi = dots per inch; N/A = Not available.

Font-Laden Laser; Complex Communicator

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

○	Poor
★	Average
★★	Good
★★★	Very Good
★★★★	Excellent

Note on Hardware Requirements:

Any product listed as requiring an IBM PC/XT/AT or compatible should also work with an IBM PS/2 Model 25, Model 30, or Model 30 286.

Personal Laser Offers Scalable Fonts

Canon LBP-4

Canon USA, Inc., Information Systems Division, One Canon Plaza, Lake Success, NY 11042; (516) 488-6700

RATING: ★ ★ ★

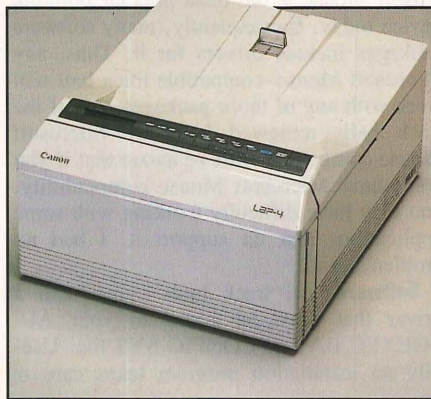
SUGGESTED RETAIL PRICE: \$1,545

HARDWARE REQUIREMENTS: Computer with serial or parallel port and cable

TYPE: Laser

MAXIMUM PRINT SPEED (TEXT): 4 pages per minute

MAXIMUM RESOLUTION: 300 by 300 dots per inch



RESIDENT FONTWARE: 8 bit-mapped Courier fonts; Dutch, Swiss, and Symbol scalable, rotatable typefaces

PAPER HANDLING: Multipurpose tray, 50 sheets, 5 envelopes

PAPER WIDTH: Minimum 3.5 inches, maximum 8.5 inches

MEMORY: 512K standard, 2.5MB maximum

OPTIONS: Paper feeder (\$195), letter, legal, envelope trays (\$195 each); font cards, 3 bit-map (\$245–\$295) and 1 scalable (\$195); RAM upgrades (1MB expansion board, \$495; additional 1MB piggyback board, \$345)

DIMENSIONS: 13.8 by 15.9 by 8.2 inches

WARRANTY: One year

Compact, quiet, and sporting state-of-the-art font capabilities, Canon's LBP-4 could be the perfect printer for small companies doing occasional desktop publishing or requiring laser quality. But before you run out and buy this product, make sure it will work with your software (more on this later).

Last fall Hewlett-Packard's LaserJet IIP introduced the concept of the personal laser printer: high-quality printing in a small package at a price low enough to appeal to many individuals. The LBP-4 looks very much like the IIP (not surprising, since both printers use the same laser engine, which Canon manufactures) and lists for about \$50 more, but it takes the personal-laser concept to a new level.

Canon's big innovation is the inclusion—at no extra cost—of three fully scalable typeface families: In addition to the familiar 10-pitch Courier fonts you get with most laser printers, the LBP-4 provides outlines

for Dutch (pseudo-Times Roman) and Swiss (pseudo-Helvetica), as well as Symbol, all of which can be printed in virtually any size and in either portrait or landscape orientation. Furthermore, you can print any Canon scalable font in four styles: normal, bold, italic, and bold italic. In other words, this printer has essentially the same capabilities (albeit with fewer built-in type families) as PostScript printers costing at least \$2,000 more. With the typographical flexibility of the LBP-4 and the layout capabilities of a sophisticated word-processing package like *Word* or *WordPerfect*, you're in the desktop-publishing business!

For those who want a fuller selection of type families, Canon offers a compact plug-in card that provides another seven typefaces and a collection of dingbats (typesetters' decorative doodads). These, too, can be scaled and rotated.

There is one significant weakness to the LBP-4, however: the scarcity of drivers. In order for a printer to do its work properly—especially a sophisticated printer like this one—software must know how to talk to it. A printer driver is a translation table that converts codes for a specific software package into commands for a specific printer; it can be supplied by the software publisher or the printer manufacturer.

Just about every laser printer that doesn't use Adobe's (costly) PostScript language uses (or mimics) Hewlett-Packard's Printer Control Language (PCL). Canon, however, has decided to go its own way, using its own language (CaPSL). While just about every major software package provides HP drivers, very little current software comes

REVIEWED IN THIS ISSUE

Laser Printer:

Canon LBP-4

Scanner:

The Complete PC Complete Page Scanner

Voice-Mail System:

The Complete PC Complete Communicator

Track Balls:

CH Products RollerMouse

Kensington Expert Mouse

Kraft Trackball

Logitech TrackMan Stationary Mouse

MicroSpeed PC-Trac

Mouse Systems PC Trackball

with a driver for Canon lasers. In fact, *WordPerfect 5.1* is the only package out of the host I tested that did.

Canon is aware of this problem, of course, and provides with the printer a Driver Kit that offers support for Lotus 1-2-3 releases 2.01 and 2.2 (but not *Allways*), *WordPerfect 5.0* and 5.1, Microsoft *Word 5.0*, *MultiMate*, *Windows* (and thus *Excel*, *PageMaker*, *Word for Windows*), *GEM* (and *Ventura*), plus a few others. *Harvard Graphics 2.13*, while lacking a specific Canon driver, supports the LBP-4. But if you use other software, including such popular packages as Microsoft *Works* or *Professional Write*, you'll have to call Canon or the software publisher to see if a driver is available. Again, do this *before* you buy. If Canon does have a driver for your package, it will ship it by overnight mail. Let's hope that newer software releases will include Canon drivers.

I tested the LBP-4 with most of the software mentioned above and got very good to excellent results. Text came out clean for the most part, and in many cases exceptionally so. However, with my practiced desktop-publisher's eye, I occasionally noticed some minor irregularities. Text didn't always line up perfectly straight on a line, individual characters sometimes being a bit high or low. Sometimes characters looked unevenly formed, particularly in the Dutch font in smaller sizes. I also had a problem in *Ventura*: When I used the Swiss font—especially in the larger type sizes—the characters were spaced much too close together. A new version of the driver corrects this.

The LBP-4 has an integral, fold-out, multipurpose paper tray that holds 50 sheets (various sizes) or five envelopes. An optional 250-sheet paper feeder (\$195) mounts on the bottom of the printer, so it takes up no additional desk space.

Canon provides a booklet to guide users through the setup process, which was relatively easy. The control panel on the top of the printer—a system of buttons, indicator lights, and an LCD panel—makes it simple to select and change the printer's defaults.

The Operator's Manual gives very good information on installing the printer and on the optional accessories and fair instructions on setting defaults from the control panel. It would benefit, however, from an index. Canon's technical-help desk was difficult to get through to, but when I finally reached people, they were friendly and helpful.

Overall, I was thrilled by the LBP-4's font capabilities. And the printer's whisper quietness (even in comparison to my old workhorse laser printer) was a delight. Considering the total package, the LBP-4 is most aggressively priced. If it will work with your software, it is a sensational bargain.

—JOHN PALOMAKI

Compact, Capable Scanner



The Complete PC Complete Page Scanner

The Complete PC, 1983 Concourse Dr., San Jose, CA 95131; (408) 434-0145

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$899

HARDWARE REQUIREMENTS: IBM PC/XT/AT or compatible with 512K of RAM (640K recommended), hard-disk drive, and graphics display (Hercules, CGA, EGA, or VGA)

MAXIMUM SCANNING AREA: 8.5 by 14 inches

RESOLUTION: 200 or 300 dots per inch

GRAY-SCALE LEVELS: 64

DITHERING PATTERNS: Three

SOFTWARE INCLUDED: *SmartScan*

FILE FORMATS SUPPORTED: .CUT, .IMG, .MSP, .PCX, .TIF

DIMENSIONS: Scanner: 9.5 by 13 by 3 inches; interface card: 4.4 by 1.8 inches

WARRANTY: 90 days

The Complete Page Scanner (CPS) arrived just as I was completing a series of reviews of large (15-by-20-inch), expensive (\$1,500 and up) flatbed scanners, a herd of which had been taking up the entire right side of my desk for more than a month. The CPS, which lists for \$899, is about half the size of one of the flatbed behemoths. Yet it scans pages as large as 8.5 by 14 inches. Not one of the flatbed units was able to handle so large a page without an (extra-cost) optional document feeder.

My first question was this: Given the size and price advantages, what are the trade-offs? I found two: One, the CPS cannot scan pages from bound books or sections of originals wider than 8.5 inches—either of which can be handled by a flatbed scanner. Two, the CPS is incapable of creating so-called gray-scale image files (more on this later). Neither trade-off is likely to be a severe drawback.

A sheet-fed scanner—which is what the CPS is—uses motor-driven rollers to move an original (artwork or text) past a set of stationary light sensors that read the images

on it. A flatbed scanner—much like a desktop photocopier—has the light sensors mounted on a bar that moves underneath the original as it lies on the scanner's glass platen. A flatbed unit, then, must be bigger than the largest sheet it is designed to scan, whereas a sheet-fed scanner can be smaller—and less expensive.

Despite the limitations of trade-off number one, I ran a wide variety of originals—everything from business cards to stiff, mounted photographs to legal-size pages—through the CPS without encountering any difficulties. And the resulting scans were, by and large, quite good.

The CPS's "line art" (black-and-white-only) scans came out exceptionally well—as good as those produced by any of the more expensive flatbed scanners I tested previously. "Image" scans (of material containing intermediate shades, such as photographs) from the CPS were good, too, but not without problems.

First, the positive: The unit did a good job of retaining image detail and maintained a good overall balance between light and dark. (Many scanners "burn out" light areas or "block up" dark ones.) The CPS's problem was a recurring tendency to leave white lines—usually faint but definitely noticeable—in the scanned image. While this did not happen with every scan, it was frequent enough to deter me from recommending the unit to those who plan to work extensively with continuous-tone originals. (To be fair, some scanners costing twice as much exhibit the same problem.)

Like all graphics scanners, the CPS deals with continuous-tone artwork by dithering the image. The CPS, like most good scanners, offers a selection of dithering patterns: three, to be precise. The unit distinguishes 64 shades of gray, which is more than you can make use of without spending a small fortune on a printing device.

Gray scale, alluded to above, is a high-tech alternative to dithering; it produces image files that can be resized and edited more successfully than dithered files. Many of the flatbed scanners in the \$2,000 range will create gray-scale files; the CPS will not. That, again, is trade-off number two, but it is not a make-or-break feature for 97 percent of scanner users.

Included with the CPS is a scanning software package, *SmartScan*. (Scanning is done by hardware but, like telecommunications, requires software to drive the machinery.) *SmartScan* lets you scan an original, view the image on-screen, crop it (select the area to be recorded), erase sections, or edit on a dot-by-dot basis. You can also combine several scanned images onto a single page using *SmartScan*.

SmartScan uses its own file format to produce very compact image files, but it

will freely convert files to a number of other standard PC graphics formats so you can load images into your favorite paint or desktop-publishing package.

Installing the CPS is fast and simple. A test program is included that identifies any conflicts between the scanner interface board and other expansion boards in your computer and helps you resolve them. Installation of *SmartScan* is automatic.

The CPS is an excellent value for those who won't be hampered by its limitations. If you need to scan bound material or want the flexibility in image editing, sizing, and reproduction provided by gray-scale capability, you should investigate flatbed units (see page 56 of the February 1990 issue for reviews of three models). However, if you consistently scan loose pages, and you're patient enough to rescan photographs until you get a streak-free image, the CPS should fill the bill, leaving room on your desktop and extra dollars in your pocket.

—STEVE MORGENSTERN

All-in-One Fax, Modem, and Voice-Mail System

The Complete PC Complete Communicator

The Complete PC, 1983 Concourse Dr., San Jose, CA 95131; (408) 434-0145

RATING: ★ ★

SUGGESTED RETAIL PRICE: \$899

HARDWARE REQUIREMENTS: IBM PC/XT/AT, PS/2 Model 30, or compatible; hard-disk drive; 512K of RAM; CGA, EGA, VGA, or Hercules; MS-DOS 3.1 or higher; touch-tone telephone service

MODEM SPEED: 2400 bits per second (bps)

FAX TRANSMISSION SPEED: 9600 bps (automatic fallback)

FAX COMPATIBILITY: Group 3

FAX RESOLUTION: Standard (203 by 98 dots per inch [dpi]); fine (203 by 196 dpi)

VOICE-MAIL CAPACITY: 999 mailboxes; 999 messages per mailbox; 999 seconds per message (approximately 17 minutes); a 5-minute message will occupy 1MB of hard-disk drive space

FEATURES: Port for The Complete Hand Scanner; jack for external speaker

SOFTWARE INCLUDED: *Bitcom*, voicemail

BOARD DIMENSIONS: 10.75 by 4 inches

WARRANTY: Two years

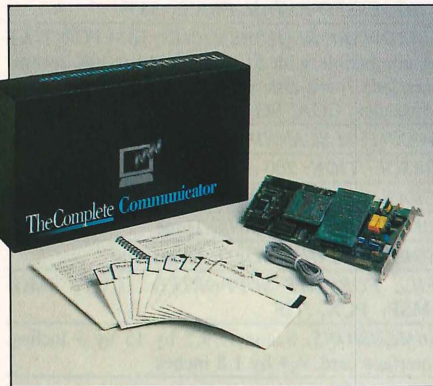
Think of Laurel without Hardy or Abbott without Costello. Alone, each was talented, but the magic happened only when they worked as a team.

For years, computers and telephones have primarily worked separately. But together, their potential applications seem almost limitless.

The Complete PC has attempted to tap some of that potential with The Complete Communicator—a device that combines a sophisticated voice-mail system, a Group 3 fax board, a 2400-bps Hayes-compatible modem, and a scanner port on a single, space-saving expansion board. It's an ambitious attempt to help the two hottest performers in business technology (the computer and the telephone) get their acts together.

Integrating computer and telephone operations can be done in two different ways. First, the computer can be used as an intelligent telephone answering machine for voice mail. Second, procedures for fax and telecommunications can be streamlined.

The Complete Communicator does both, the first through an integrated voice-mail system, like The Complete Answering Machine (CAM). CAM is a device that emulates the voice-mail systems so common in corporate America these days.



Using CAM, you can establish personalized voice mailboxes for up to 999 people. After a general greeting is played, callers punch in a voice-mailbox number and hear a message created by the owner of the mailbox. But CAM does more than receive and distribute incoming messages—it can forward prerecorded messages or incoming calls to a predetermined telephone number.

Controlling sophisticated answering-machine features via computer has definite advantages, the most important being ease of use. Since many of CAM's functions (setting the maximum length of incoming and outgoing messages, for example) are menu driven from the computer, it's almost as easy to operate as most stand-alone answering machines. Unfortunately, there are also some drawbacks. Storing voice and fax messages requires a hefty amount of disk space. Users must diligently discard old messages or the hard-disk drive may be overrun. Also, the computer must be left on to receive messages.

Most irksome, however, is CAM's documentation. For example, the user's guide admonishes you to carefully follow the step-

by-step instructions for setting up a multiple-mailbox system, but systematic, start-to-finish instructions just aren't there. The setup involves a lot of trial and error. Still, if you persevere, you'll end up with a powerful voice-mail system.

The Complete Communicator's second broad function is to make data communications faster and easier. A 2400-bps Hayes-compatible modem, *Bitcom* communications software, and all the functions of a fax board are part of the package. Data communication using the modem is standard and fairly straightforward; more important is the fax application.

The Complete Communicator's fax module can print messages while operating in the background, freeing the computer for other tasks. In fact, you can set up the fax to automatically print every incoming document.

The Complete Communicator's fax can handle such messaging tasks as broadcasting and polling. It can also append a cover memo to every outgoing document. Perhaps the most intriguing feature of this unit is that it allows you to create and send documents from within software packages like *WordPerfect 5.0* and *Microsoft Word*.

There is a downside, however. The Complete Communicator's fax handles errors poorly. For example, several times when it was called on to convert a file into the fax format prior to transmission, it locked up the entire fax application (other applications continued to work) and ultimately left a message that a file was being converted long after it had given up. When the trouble appeared, there was no obvious or easy way to abort the operation. Calls to The Complete PC's technical support were futile—no technician was available for two full days.

Ironically, The Complete Communicator's ability to do so many things raises some difficult issues. In what setting, for example, is it appropriate to concentrate a voice-mail system, a modem for telecommunications, and a fax on a single telephone line? In many cases, it is preferable for fax and voice activities to use separate phone lines. Adding data communications to the same line further complicates the picture.

Then, for The Complete Communicator to do its job 24 hours a day, your computer must be left on at all times. While most people are perfectly comfortable leaving a standard answering machine or fax machine on around the clock, many would hesitate to do the same with the computer.

All in all, The Complete Communicator does provide a complete communications solution, albeit with some limitations. And if the way it delivers those communications functions is appropriate for your work space and work style, the price is right.

—ELLIOT KING

When You Don't Need A Word Processor That Offers You the World

Here Are Four Alternatives That May Give You Just What You Need

If you're in the market for a new Macintosh or MS-DOS word processor, don't be so sure that the big guys (*WordPerfect*, *Microsoft Word*, and *WordStar* come to mind) are the only way to go. It's true that the old standbys incorporate almost every feature that you could wish for. But is more better?

You may not need the plethora of desktop-publishing features in *WordPerfect* and *Word* or the database and communications modules of *WordStar*. Maybe you just want to write. Or perhaps you'd like footnoting and page-layout capabilities but have no need for a math function.

Whatever your needs, be aware that there are more word processors than any other category of software on the market. In choosing a word processor, think about the kinds of tasks you need to accomplish. If you intend to do mailings or even query 10 or more people with the same basic letter (see *Software Solutions*, this issue), make sure your package has mail merge.

In addition, try to anticipate your future needs. For example, while you may not need page-layout capabilities right now, next year you may want to produce a business plan that includes columns.

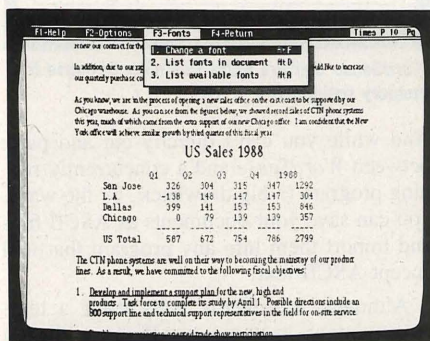
The following are reviews of three MS-DOS word processors and one Macintosh word processor. All are either newly released or recently updated and are compelling alternatives to the biggest of the big. After you've read over the reviews, scan the accompanying chart to see how their features stack up.

Business-Oriented Word Processor

Professional Write

VERSION REVIEWED: 2.1

SYSTEM REQUIREMENTS: 512K IBM PC, PS/2; two drives (hard-disk drive highly recommended); CGA, EGA, VGA, or Hercules (required for previewing capabilities); 5.25- and 3.5-inch



Pull-down menus make *Professional Write* a cinch to learn.

PUBLISHER: Software Publishing Corp., 1901 Landings Dr., P.O. Box 7210, Mountain View, CA 94039; (415) 962-8910

PRICE: \$229

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★ ★

George Orwell once said that good prose is like a windowpane—the less you're aware of it, the better. Good software should have the same quality. If it's well designed, you should be able to forget about it and concentrate on the task at hand. Judged by that standard, *Professional Write* is about as good as software can get.

Crystal clarity characterizes the program's entire structure and supporting documentation. It will take you no time to figure out how to create documents, manage files, and perform all the electronic wizardry (search and replace, cut and paste, and so on) that has made the typewriter virtually obsolete.

Every feature can be accessed through pull-down menus. Once you get the hang of the program, you can use the easy-to-remember control-key shortcuts to speed most functions.

Professionals and business managers should find most of what they need here: a spelling checker, math calculation, headers and footers, excellent mail-merge capabilities, and a full-page document preview that displays fonts exactly as they will appear when printed.

People who write lots of letters will fall in love with the address-book feature. You can keep any number of address books, each holding up to 2,000 names and addresses. It only takes two or three keystrokes to find, add, or change data. Once you find an address, a tap of a key inserts it into your document in the proper form for a business letter. To create mass mailings, simply merge addresses from one of your address books into a form letter.

Professional Write includes fonts that work with more than 150 printers, including the HP DeskJet and LaserJet series. To access these fonts, just go to the print menu, point, and click. Using any third-party fonts that you may have with *Professional Write* is more complicated than using the ones included with the program, but the procedure is explained well in the manual. If you have problems, superior telephone support (free but not toll-free) is available. In fact, the technician I spoke with said he spends most of his day telling people how to set up third-party fonts.

The program can work with and save documents in 14 different word-processing formats, including ASCII, DCA-RFT, Wang PC, Microsoft *Word*, *MultiMate*, and *WordStar*. This is a wonderful capability. If you've got a letter written in *WordStar* and you'd like to use it in a mailing, you can load the file in order to take advantage of *Professional Write*'s mail-merge system. This ability would be especially valuable for consultants, say, who work with several people and companies that use different word processors.

You can also add graphs from the same publisher's *Harvard Graphics*, *PFS: First Choice*, *PFS: First Graphics*, and *Professional Plan*. You can insert worksheets from Lotus 1-2-3 (releases 1 and 2), *PFS: First Choice*, and *Professional Plan*.

A double layer of help is available at all times. One is context sensitive. The other is a list of features that you highlight to get detailed instructions. Even creating macros and form letters, which I've had trouble with in other programs, was simple from the outset. This is the cleanest, easiest-to-read help system I have yet seen.

There are limitations, though. This is an "executive" word processor, meaning that many high-level features—such as win-

dows—have been left out (only one document can be open at a time). Although macros are a cinch to create, you are limited to 35 of them. You can search only for text strings—not for italics, for instance. And indexes and footnotes aren't automatic. Another complaint I have is that if you use the delete key rather than blocking and cutting text, you can't undelete.

Tabs and paragraph indentations are also a sticking point. They're hard to set up. Because of this, changing a paragraph's format is time-consuming. Also, the tab key doesn't indent existing text; it only jumps your cursor to the tabbed space.

The program's weakest areas, however, are the spelling checker and thesaurus. Even words like *worksheet* weren't recognized by the speller, and I couldn't find a synonym for *manager*.

But all in all, it's smooth sailing from the time you first lift anchor with this business-oriented word processor. It's got great on-line help and a well-designed mail-merge system. Easy to use and rich in the features that matter to most business people, *Professional Write* is truly a winner.

—LISA KLEINHOLZ

Memory-Resident Word Processor Offers Extra Flexibility

WordSense

VERSION REVIEWED: 2.1

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2; two drives (hard-disk drive optional); 5.25- or 3.5-inch

PUBLISHER: SoftSense, Inc., P.O. Box 9033, Charlottesville, VA 22906; (804) 977-7520

PRICE: \$99

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★

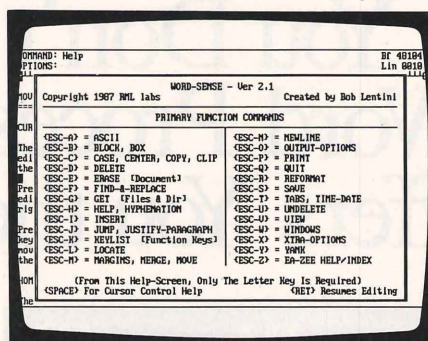
ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

SUPPORT: ★ ★ ★

WordSense is a memory-resident (yes, you heard me right!) word processor that could be an ideal choice for someone who doesn't want to cope with heavy-artillery programs that offer you the world and then some.

What's the advantage of a memory-resident word processor? Here's an example: Suppose you're hacking away at a mailing-list database and you want to create a document that refers to certain information in the database. You can pop up *WordSense*, write, then exit instantly to the database, repeating the process as often as you like.



WordSense delivers extra flexibility because it's memory resident.

And while you can't directly cut and paste between *WordSense* and a concurrently running program (a big drawback, by the way), you can save your documents as ASCII files and import them into any program that will accept ASCII text.

Although *WordSense* calls itself a text-management system, it offers neither a spelling checker nor a thesaurus. For your

About Software Reviews

Our software reviews use shorthand to describe several of the details associated with any package. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are not listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

Designation	Models
128K Apple	IIfx/IIfx/IIGS (in IIfx/c mode) and compatibles
128Ke Apple	IIfx (enhanced ROM)/IIfx/IIGS (in IIfx/c mode)
Apple IIGS	IIGS only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key		★★	Good
○	Poor	★★★★	Very Good
★	Average	★★★★★	Excellent

\$99 you get a clever program, not a so-so word processor with a so-so spelling checker and a so-so thesaurus. The idea is to use whatever writing aids you wish—*WordSense* will work with all of them. And while the program is not a desktop publisher, it can be teased into doing some basic desktop-publishing tricks, including multiple-column formatting, laser-printer management (including font selection and proportional spacing), and box drawing.

Having a full-blown word processor at your fingertips makes sense. For example, here's a little convenience I discovered: I load *WordSense* as a TSR, then load my regular word processor, using the latter as the underlying program and *WordSense* as an auxiliary that can do some things my old pal can't. Back and forth I go, cutting and pasting by saving to disk from *WordSense* and loading into my old word processor.

This double word-processor game gives me the power to open 20 windows at once (*WordSense* gives me 9, and my old word processor allows 11) and increases my complement of word-processing features. Since no single word processor has everything, this greatly enhances my productivity. With *WordSense* added to my old favorite, I come mighty close to the elusive ideal.

WordSense is customizable. When the program comes out of the box, the function keys are unassigned. You can assign functions, such as cutting, pasting, or selecting text, to 40 function keys (10 keys, pressed alone, or in conjunction with Shift, Ctrl, and Alt). What's the value? For one thing, you can set up the keys to emulate the assignments of a word processor with which you are already familiar. Or, as the *WordSense* manual shows you, you could perform entire routines with a single keystroke, such as extracting data from an electronic card file and automatically printing a mailing label with the information.

Another feature that puts *WordSense* into the realm of serious text handlers is the availability of up to 26 styles, definable from within the Output Options menu. The styles, which are listed on a style sheet, are formatting routines specifying virtually all on-screen formatting and printing variables, such as margins and tabs. *WordSense* displays your options for defining a given style. You merely pick and choose. I've never used a friendlier method.

Before printing a *WordSense* document, you can preview it on-screen. Although the approximate view will help you visualize your layout, it is not WYSIWYG.

But regardless of its limitations, *WordSense* is sturdy. Despite numerous attempts to foil its efficient error handling, I could not crash the program. For example, if you enter an inappropriate command, you are simply returned to the text-editing screen.

AW... What the Heck!

We REFUSE to Raise Our Prices!

DesignCAD 3D \$ 399

WE REFUSE TO RAISE PRICES!

"We have dealers—even from foreign countries—call and tell us they could sell a lot more DesignCAD 3D at higher prices because some of their customers can't conceive a true 3D solid modeling program costing only \$399. They ask us to raise our prices because they know it's worth more, much more. But look at the history of our company: We just don't believe in inflated prices! An excellent CAD system shouldn't cost any more than a good word processor. So we still say, "Aw...What the heck! We refuse to raise our prices! Let's see the other guys beat this deal!"

WHY BUY THIS ONE?

There is a very important reason to buy DesignCAD 3D other than price: PERFORMANCE. DesignCAD 3D provides complete 3-Dimensional drawing capabilities. It's not a "warmed-over" 2D program. DesignCAD 3D allows you to draw any entity in 3-D space. This means, for example, that you can draw a curve in the shape of a spring. You can draw a circle or arc at ANY angle on ANY plane.

DesignCAD 3-D gives your Personal Computer the power of a mainframe CAD system! With DesignCAD 3-D, you can produce complete 3-dimensional models and drawings that were once considered impossible on a microcomputer!

Complete 3-Dimensional design features make it easy for you to construct realistic 3-D models. With full solid-object modeling capabilities you can analyze your drawing to determine the volume, surface area or even center of gravity! DesignCAD 3-D even permits you to check for interference between objects! Aeronautical Engineers can now find the center of gravity for a new airplane design with a couple of key-strokes. The Architect can determine the surface area of a roof for decking in a matter of minutes. The Civil Engineer can calculate the volume of a lake or dam in seconds. The Mechanical Engineer will know for sure if certain parts fit together without interference. The uses for DesignCAD 3-D are only limited by YOUR imagination!

DesignCAD 3-D supports more than 400 different peripheral devices, including more than 250 printers (dot-matrix, laser printers, color printers, etc.), 80 plotters, most mice and digitizing tablets, and a wide variety of graphics cards and displays.

Once again, American Small Business Computers has proved that you don't have to spend a lot of money to get quality software. DesignCAD 3-D provides features such as Shading, Solid Object Modeling, Hidden Line Removal, and Cross Sectioning capability. All for only \$399. No other 3-Dimensional CAD system can come close to providing the price/performance of DesignCAD 3D.

VERY EASY TO USE!

DesignCAD 3-D has consistently proven itself to be faster and easier to use than most competing CAD systems. In a national competition DesignCAD 3-D was matched in drawing speed by only one other CAD system. It cost \$3,000. DesignCAD 3-D was able to perform a given drawing in nearly half the time as packages costing up to \$5,000.

Customers frequently remark at how quickly they are able to learn DesignCAD. Many also comment about the power of DesignCAD.

Dr. Stephens of NASA states: "One of the things I like best [about DesignCAD 3D] is that I can pick it up and go with it." Dr. Stephens, who evaluates and recommends software for purchase by NASA, says software must meet certain criteria: "One, it must work. Two, it must be user friendly and easy to use. I push it [DesignCAD 3D] as far as I can push it. We're not using it as a toy down here, and I resent the fact that some people believe that a product's ability is substandard because of its price."

Jan Hallett, an engineer at Allied Chemical states: "We use it extensively here and are really sold on it. Plant layouts, pipe runs, fabrications, along with a lot of other things are drawn and designed. I've got AutoCAD, but very seldom if ever use it anymore."

PC MAGAZINE SAYS...

DesignCAD 3D, the latest feature-packed, low-cost CADD package from American Small Business Computers, delivers more bang per buck than any of its low-cost competitors and threatens programs costing ten times as much. For a low-cost, self-contained 3D package... DesignCAD's range of features steals the show."

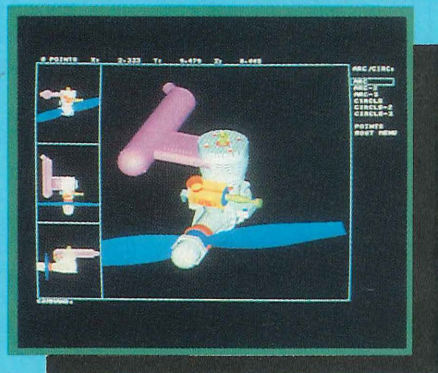
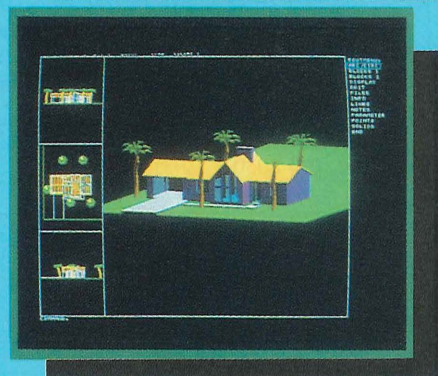
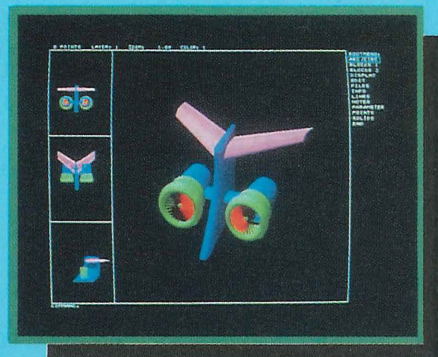
HOW DO I GET ONE?

DesignCAD 3-D and DesignCAD 2D are available from most retail computer stores, or you may order directly from us. If you have questions about which program to purchase please give us a call. All you need to run DesignCAD 3-D is an IBM PC or compatible computer with 640 K RAM memory and a hard disk. Both products support most graphics cards, printers, plotters and digitizers. Free Information and a demo disk are available.

VERY POWERFUL!

DesignCAD 3-D version 2.1 is as powerful as most CAD systems costing \$5000-\$10,000! Features like: Complex Extrusions, a true 3D color-coded cursor, full shading or rendering capability, Blending of Surfaces, Complex Sweeps and Translations, and Boolean Operations make DesignCAD 3-D one of the most powerful 3-D CAD systems available...at any price! Engineers, Architects, and Consultants constantly tell us that they use CAD systems costing thousands of dollars which are not as powerful as DesignCAD 3-D.

BYTE MAGAZINE SAYS...
"At \$399, DesignCAD 3D was the least expensive package we saw, yet it was one of the more powerful. ..Don't be fooled by the remarkably low price, this program can really perform!"



American
Small Business Computers, Inc.
 327 South Mill Street
 Pryor, OK 74361
 (918) 825-4844 • FAX: (918) 825-6359

No messages, no beeps, nothing. But if you try to give a file a name that already exists in that directory, *WordSense* asks if this is what you really want to do. I'd say that this program behaves like a gentlemans in that it doesn't get in your way and sends you only those messages that are absolutely necessary to keep you on the path through the woods.

To do straightforward word processing, you'll get all the guidance you'll need from *WordSense's* on-line help files. Certain operations, like setting up multiple columns, require the more extensive information provided in the manual. Unfortunately, the manual is often unclear and lacks sufficient detail to ease you smoothly through the process in question.

You'll foot the bill for technical-support calls. But if you call the company, you can talk directly with the program's developer. Thus, you can get whatever the manual lacks directly from the source.

I like it. Will I make *WordSense* my one and only? Maybe, except that my new piggyback system—concurrent word processors—works so well for me I'll probably stick with it. —HENRY F. BEECHHOLD

Word Processing and Desktop Publishing United

Legend

VERSION REVIEWED: 2.0

SYSTEM REQUIREMENTS: 640K IBM PC, PS/2 Model 30 or above (80286 or 80386 microprocessor); hard-disk drive; EGA, VGA, or Hercules; mouse; DOS 3.2 or higher; Microsoft *Windows* v2.0 (run-time included); 5.25- or 3.5-inch

PUBLISHER: NBI Inc., 3450 Mitchell La., Boulder, CO 80301; (303) 444-5710

PRICE: \$495

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

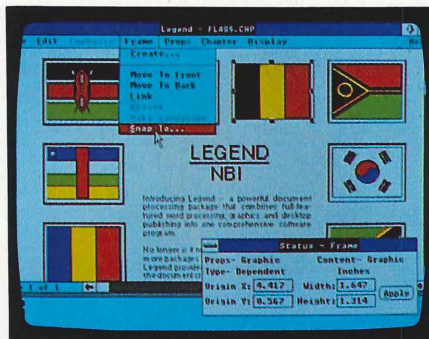
ERROR HANDLING: ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★ ★

Word processing may be losing its appeal in the dawn of the 1990s. In its place may sprout a far more integrated, holistic (and fashionable) approach to putting words on paper called document processing. At least, this is the opinion of the developers of the multifaceted document processor *Legend*.

Like other word processors—such as *WordPerfect*, *Word*, and *WordStar*—*Legend* marries traditional word processing with sophisticated desktop-publishing features. For \$495 (about the same price as *Word* or *WordPerfect*), you get many of the benefits



Add graphic sparkle to text with *Legend*, a word processor and desktop publisher.

of Aldus *PageMaker* or Xerox *Ventura Publisher* (programs that retail for \$795 and \$895). Such perks include WYSIWYG page layout, precise graphics manipulation, and professional typographical controls. With just one purchase, you can write, design, and produce printer-ready documents from start to finish.

Legend is designed to work in the Microsoft *Windows* environment, and a scaled-down version of *Windows*, which will work only with *Legend*, comes with the program. A graphic user interface—combined with Macintosh-like menus and mouse action—

makes *Legend* fun to use. It also makes this program faster to learn than many MS-DOS word processors.

It's fairly easy to get up and running with *Legend*. In my first attempt, I followed the instructions in one of the first tutorials in the program's training guide. Toggling between a draft mode, where formatting codes are displayed on the screen, and a WYSIWYG mode, I typed in a sample business letter. I chose formatting options, such as bold, italic, uppercase, and superscript, from the menus. Within about 15 minutes, I had successfully produced a snazzy-looking piece.

I experimented further, easily producing a sample table of contents, footnotes, and tables. And with a bit of customizing (such as adjusting the view in WYSIWYG mode to fit my monitor's screen), I found almost everything I could ask for from a word processor.

Legend's interface is frame-oriented. This means that before you position tables or graphics on a page, you must create frames to contain those objects. Once a frame is in place, you can move it or resize it to suit your needs.

Although a frame-oriented program can be difficult to use, *Legend* is not. In fact, I give the program's developers big points for

FEATURES AT A GLANCE

The following chart compares the features and prices of *Professional Write*, *WordSense*, *Legend* (all for MS-DOS compatibles), and *WordMaker* (for the Mac). See the reviews for greater detail.

	Professional Write	WordSense	Legend	WordMaker
Price	\$229	\$99	\$495	\$125
Computer	MS-DOS	MS-DOS	MS-DOS	Mac
Imports Graphics	Yes	No	Yes	Yes
Imports Formatted Text from Popular Programs	Yes	No	Yes	Yes ³
Mail Merge	Yes	Yes	Yes	Yes
Tables	No	Yes	Yes	No
Multiple Columns	No	Yes	Yes	No
Windows	No	Yes	No	Yes
Database	Yes	No	No	No
Math Capabilities	Yes	No	No	No
Spelling Checker	Yes	No	Yes	Yes
Thesaurus	Yes	No	No	No
Document Preview	Yes	Yes ²	Yes	No
Built-in Fonts	Yes	No	No	N/A
Macros	Yes ¹	Yes	No	No
Decimal Tabs	Yes	Yes	Yes	Yes
Memory Resident	No	Yes	No	No
Style Sheets	No	Yes	Yes	No
Mouse Support	No	No	Yes	Yes
Index Generation	No	No	Yes	No
Headers and Footers	Yes	Yes	Yes	No
Table of Contents	No	No	Yes	No
Text Flow around Graphics	No	No	Yes	Yes ⁴
Masks	No	No	Yes	Yes
Word Count	Yes	No	No	Yes

taking some of the mystery out of frame-oriented layout. One such innovation is the excellent use of the mouse buttons, each of which controls a set of screen menus and commands. To see the menus that let you create, resize, or move a frame, click the right-hand mouse button. To see the menus that let you modify objects inside a frame, click the left-hand mouse button. After a few tries, these button controls become second nature.

It's easy to group and rotate graphics with *Legend*. And defining styles for both text and graphics is a snap. For example, the text-styles dialog box lists all options available for setting styles, including fonts, tabs, color, special effects, numbering, and rules. Select any of these options and another dialog box appears. Each related dialog box displays all style options, so you can move quickly among them to define your styles.

Five manuals accompany *Legend*: an installation guide, a training guide, a reference manual, a quick-reference booklet, and an index. Each guide is cleanly designed and clearly written. All do a good job of explaining and demonstrating various tips and techniques. In addition, *Legend's* on-line help describes all menu choices.

I managed to crash *Legend* once or twice when entering a series of commands too

quickly. However, it's difficult to find much wrong with the program's general mechanical operations. *Legend* warns you when you're about to go astray.

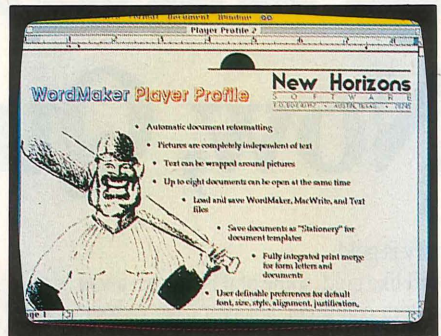
It was simple to automatically flow text around a graphic frame with *Legend*. But could I flow text around an irregular graphic, say, an illustration of a flower? For a quick answer, I called the publisher's toll-free customer-service number. I wasn't put on hold and I got a quick response. The technician told me that while I couldn't automatically flow text around irregular objects, I could achieve a text-flow effect manually, by overlaying a series of smaller text frames on the flower's graphic frame. My representative agreed, however, that this would be cumbersome.

Another complaint I have is that you can't use the spelling checker inside any frame that contains graphics or tables. While working with a page-long insurance premiums payout table, I had to check the spelling on my own—a tedious task. I also wish *Legend* had a word-counting feature.

Shortcomings aside, however, a Windows-based environment and a smart user interface make *Legend* easy to learn and use. Its WYSIWYG capabilities and draft modes are useful and convenient. All in all, this is a very good value.

—LESLIE SIMONS

A Competent Mac Word Processor, an Alluring Price



WordMaker sports an interface every bit as intuitive as the big-name word processors.

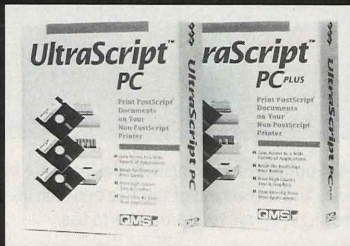
WordMaker

VERSION REVIEWED: 1.01

SYSTEM REQUIREMENTS: 512Ke Macintosh; two drives; System 4.1 or higher

PUBLISHER: New Horizons Software, Inc., P.O. Box 43167, Austin, TX 78745; (512) 328-6650

A New Era in PostScript® Printing...



Best of 1989 PC Magazine

January 16, 1990

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Manifest shows you how your memory works. Here's the first megabyte of RAM, showing unused areas.

in your PC. tools can mine it for you.

Introducing QEMM 50/60 Version 5.0

QEMM (Quarterdeck Expanded Memory Manager) 50/60 is the gold standard in memory management for the IBM PS/2™ series 50 and 60. It works with IBM's Memory Expansion Option, Expanded Memory Adapter/A and compatible memory boards.

It supports all three specifications for expanded memory: EMS 4.0, EMS 3.2 and EEMS memory so you can run all expanded memory programs.

And it also works with Microsoft's XMS specification, in case you want to use Windows.

QEMM lets you use memory locations between 640K and 1024K to run TSRs, mouse and network drivers, DOS resources and MCA adaptors. That means you can gain up to 130K of memory space below 640K for your programs.

Best of all, QEMM is designed to be easy to use—even for those new to the PC. Just install it and type 'optimize,' and it looks at your AUTOEXEC.BAT and CONFIG.SYS files and loads whatever it can in high memory. Automatically.

QEMM 50/60 is priced economically. It's the biggest boost you can give your PS/2 for under \$100.



QEMM and DESQview let you multitask and window with the programs you know and use today.

Introducing QEMM 386 Version 5.0

QEMM 386 can expand the memory of all 386-based computers, including PCs with 80386 upgrade boards. It makes your memory compatible with EMS 4.0, EMS 3.2 and EEMS memory without having to add special hardware. It's compatible with protected-mode programs (like 1-2-3 Release 3, IBM Interleaf and Paradox 386) using DOS extenders compatible with the Quarterdeck/Pharlap VCPI spec.

QEMM also works with Microsoft's XMS spec to extend memory for Windows users.

QEMM gives you maximum control over your memory between 640K-1024K. It can find unused memory nuggets as small as 4K and use them to free up room for programs to use.

QEMM 386 even monitors how your programs use memory while they're running. Then it shows you where there's additional memory you can use. It even measures which parts of your memory are fastest and 'decides' how to use them for better performance. In action, it's easy and fun—almost like having an *artificial intelligence* program to help tune up your PC.

All these capabilities add up to greater performance at a very low cost. And QEMM lets you go for the gold without having to become an expert on the PC memory puzzle.

Like all Quarterdeck products, it works with your current PC and favorite software.

A few words about DESQview

What's the smartest thing to do with all that additional memory? Run DESQview and multitask your favorite programs in windows. Use a mouse or keyboard and you can run graphic and text-based programs side-by-side. All without having to invest in a bigger hard disk or more memory.

From Manifest to QRAM, QEMM and DESQview, Quarterdeck helps you mine the most from the software and PC you have today.



DESQview's recent awards.

System Requirements

Manifest: 8088, 8086, 80286 80386 and i486 PCs & PS/2s

GRAM: 8088, 8086, 80286 PCs. Use of high memory is only available when PC has EMS 4 or EEMS expanded memory or Chips & Technologies shadow RAM.

QEMM 50/60: 80286-based PS/2s and compatibles with IBM PS/2 80286 Memory Expansion Option, IBM PS/2 80286 Expanded Memory Adapter/A or compatible.

QEMM-386: 80386-based PCs and PS/2s and PCs with 80386 add-in boards.

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Shipping & Handling \$5 in USA/ \$10 outside USA					
California Residents add 6.5%					
Grand Total					

*introductory offer expires 3/31/90

PRICE: \$125

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

WordMaker from New Horizons is a basic Mac word processor at a basic price. Although it lacks some advanced features (such as multiple columns, tables, and footnotes) that are present in more expensive programs, it's got what you need to get your words down on paper. And what *WordMaker* does, it does well.

One of *WordMaker*'s most outstanding features is the way it elegantly merges graphics with text. You just import the draw- or paint-based graphic directly into your document using the clipboard or your scrapbook. Then you're free to resize or reposition the image. Standard fare on the Mac, right? But where *WordMaker* shows its true colors is in the integration of masks. Masks let you place your graphic on a different layer than your text, as if it had been drawn on a sheet of cellophane laid on top of your printed page. Using masks, I pasted

a drawing in the middle of my page, then wrapped my text around it by adding space between words and changing margins.

The program also integrates the usual utilities, such as a spelling checker (but no thesaurus). You can check your spelling as you go along (*WordMaker* will beep whenever you type an unknown word) or after you're through writing. Sometimes I just check a particular selection instead of the entire document—especially when I write letters. Since most of my clients' names and addresses are not in my spelling dictionary, it's faster to check just the body and not the salutation of a letter.

You can also format by paragraph or line by specifying text alignment (flush left, centered, proportional spacing, or flush right), spacing, tabs (right, center, left, and decimal), and extra space before or after paragraphs.

When I've finished writing, I often select Document Information from the menu to get crucial statistics such as the number of words, lines, sentences, and pages in my document. It also tells me average word length and sentence length, which helps me analyze my writing style.

WordMaker is easy to use. Many of the

commands also have mnemonic keyboard shortcuts, such as Command-S to save your document and Command-B to select Bold from the format menu. If you do get stuck, however, you can turn to the program's documentation, which is complete and includes detailed instructions.

Try as I might, I could never crash *WordMaker*. In fact, the menu-based interface makes it almost impossible to make a mistake. And when I did make an error, the program graciously informed me of my faux pas.

Likewise, when I called technical support to ask about the mask feature, my call went through the first time. The representative answered my questions without turning to the documentation for assistance.

Although *WordMaker* is not as powerful or feature rich as, say, *MacWrite II*, it is a hardworking, starter-to-midlevel word processor. It is well designed and sports an interface every bit as intuitive as the big-name word processors. The bottom line? If you don't have a need for lots of extras, this program will serve you well. However, if you seek high-powered features and formatting, you may want to look elsewhere.

—BROOKS HUNT

Software for Learning and Leisure

McGee

SYSTEM REQUIREMENTS: 512K Apple IIGS*; 512K Macintosh (does not support color); 3.5-inch

PUBLISHER: Lawrence Productions, 1800 S. 35th St., Galesburg, MI 49053-9687; (616) 665-7075

PRICE: \$40

SUGGESTED AGES: 2-4

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★

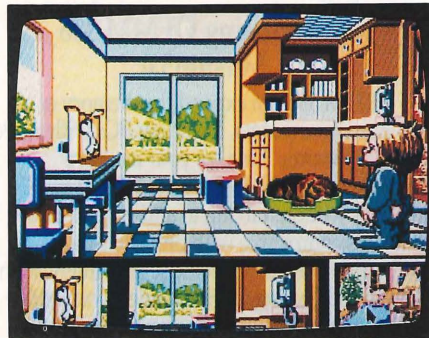
ERROR HANDLING: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★ ★

EASE OF USE: ★ ★ ★

McGee is having an open house and he's inviting your preschooler to take a tour. Children simply click the mouse on an icon at the bottom of the screen or on objects of interest. No other graphic interface could be this simple.

Your child can explore *McGee*'s room and watch him play with his toys. Next, he or she can tiptoe quietly into his parents' bedroom and activate the music box that will wake up his mom. Scout the bathroom and observe as *McGee* brushes his teeth or closes the bathtub curtain to take a shower.



McGee is having an open house and he's invited your child to take a tour.

Keep *McGee* company as he turns on a squawky television in the living room, throws the dog a bone in the kitchen, or plays on the tire swing in the backyard. The sound and graphics are so authentic, it's like visiting a real child's home.

McGee is suitable for the youngest members of the family. It requires neither reading nor keyboarding skills. I only wish *McGee* lived in a bigger house so there were more rooms to explore. I hope there's a sequel soon.

—CAROL S. HOLZBERG

2nd Math

SYSTEM REQUIREMENTS: 256K IBM PC, PS/2 or 48K Apple*; CGA or Hercules (color monitor recommended); 5.25- and 3.5-inch

PUBLISHER: Stone & Associates, 7910 Ivanhoe Ave., Ste. 319, La Jolla, CA 92037; (619) 459-9173

PRICE: \$50 (IBM), \$40 (Apple)

SUGGESTED AGES: 7-14

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★

GRAPHICS QUALITY: ★

EASE OF USE: ★

2nd Math is a math-skills builder with many levels of difficulty. The Apple edition gives budding mathematicians a chance to work with one-, two-, or three-digit whole numbers, using addition, subtraction, multiplication, and division. The IBM edition also includes fractions, percents, decimals, equations, and ratios.

On-screen menus and self-paced demonstrations teach basic math operations through step-by-step tutorials. Kids can use the practice sessions, each of which has several problems, to strengthen essential math skills. Several test options reinforce basic math facts, give youngsters feedback on performance, and keep adults advised of areas that need work.

One activity requires players to figure out a secret message. Another helps them sharpen math acuity by playing a game against an electronic Math Whiz or a friend. The program provides on-line help, printing capa-

bilities, and a text editor to design customized tests or worksheets.

2nd Math is a program that can grow with your child. While the sound and graphic capabilities are limited, they offer adequate audio-visual reinforcement to keep kids interested.

—CAROL S. HOLZBERG

Gnarly Golf

SYSTEM REQUIREMENTS: 512K Apple IIGS*; 3.5-inch drive; GS/OS 4 for use with hard-disk drive

PUBLISHER: Britannica Software, 345 Fourth St., San Francisco, CA 94107; (415) 546-1866

PRICE: \$30

COPY PROTECTED: Yes

OVERALL PERFORMANCE: ★ ★ ★

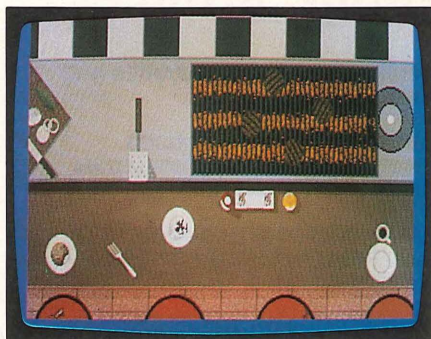
DOCUMENTATION: ★ ★ ★

PLAY SYSTEM: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★

You've never seen a golf course quite like this one! In *Gnarly Golf*, you'll swing your club on some of the wackiest fairways and driving ranges ever to grace a computer screen. Try your luck on a pool table, in a prison, at a dock, or in a car wash. There are 18 settings, with each hole presenting



Gnarly Golf takes you onto some of the wackiest fairways imaginable.

totally unexpected challenges.

Gnarly Golf is as amusing as it is addictive. Game graphics, animation, and IIGS sound effects add up to a lot of fun. If you tire of the new-wave music, turn it off. You'll want to avoid all possible distraction in your efforts to conquer a golf course that would really tee off the likes of Jack Nicklaus or Arnold Palmer.

—CAROL S. HOLZBERG

Blockout

SYSTEM REQUIREMENTS: 384K IBM PC, PS/2; CGA, EGA, or Hercules; DOS 2.1 or higher; 5.25- and 3.5-inch

PUBLISHER: California Dreams, 780 Montague Expwy. #403, San Jose, CA 95131; (408) 435-1445

PRICE: \$40

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★

PLAY SYSTEM: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★

Blockout is a mind-stretching game of finesse and split-second decisions. As if he or she were playing a three-dimensional version of *Tetris*, the *Blockout* player is looking down a rectangular well that has a grid superimposed on it.

Falling 3-D shapes—composed of many blocks (hence, the name)—must be maneuvered into empty grid spaces in the bottom of the well. Players control the length, width, and depth of the well, in addition to which set of blocks (flat, basic, or extended) to play with. The ultimate challenge is the extended set, which includes some real pain-in-the-posterior, multiplane shapes.

Blockout is a superbly executed program that looks great, is easy to play (once you get the hang of thinking in 3-D), and keeps you coming back.

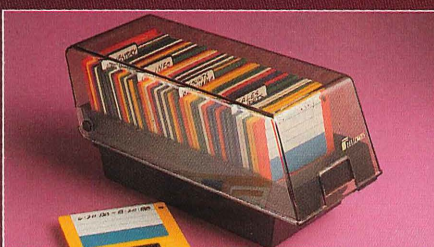
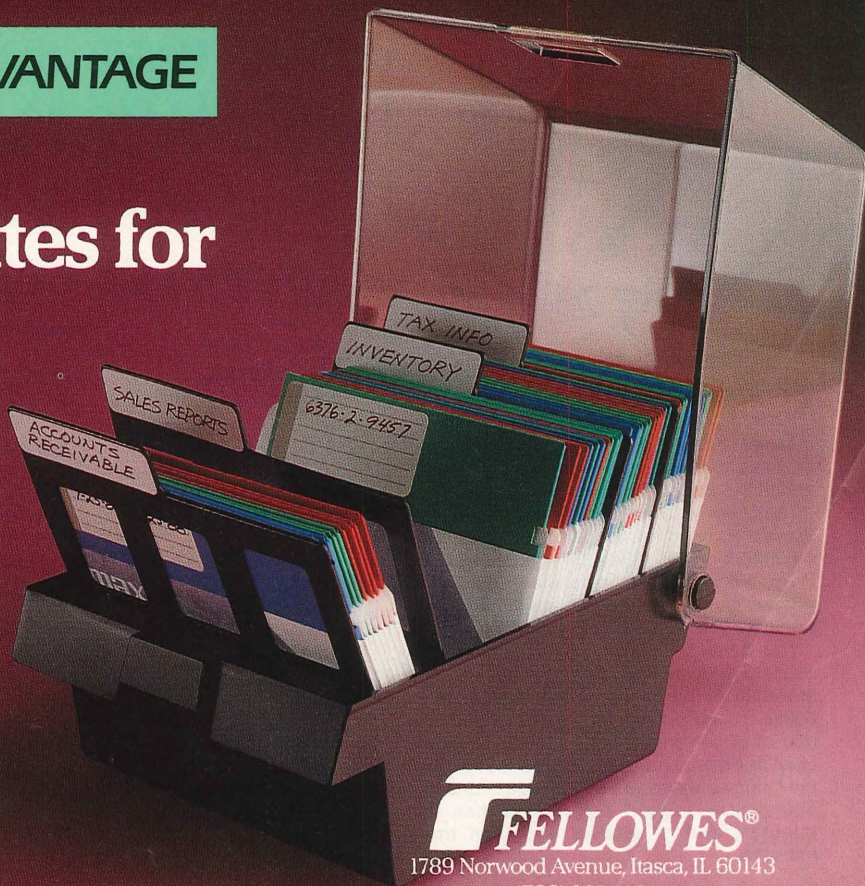
—JEFF DONAHUE

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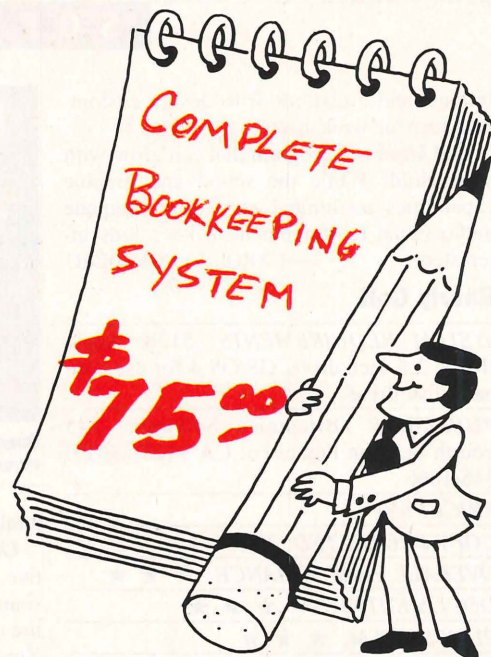
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- ☐ **PC-Write 3.03** (4610-4612) All the features you need including spell-checking. The BEST word processor under \$200! (3 Disks) **512K**

DATABASE/MAIL LIST

- ☐ **Mail List** (4205) Keeps track of your mailing list and prints mailing labels.
- ☐ **PC-File:db** (4213-4215) This database package is complete, powerful, and dBASE compatible! (3 Disks) **512K HD**

UTILITIES

- ☐ **Masterkeys** (4300) Like the popular Norton Disk Utilities, only better!
- ☐ **SimCGA** (4305) Runs many CGA programs on your monochrome system.
- ☐ **Tree View** (4347) An amazing DOS shell with pull-down menus.
- ☐ **HD Menu** (4379) Puts all the programs on your hard disk onto a one-touch selection menu. **HD**

GRAPHICS/PRINTING

- ☐ **Epson Utilities** (4333,4334) A collection of utilities and fonts to enhance your printer's print quality. (2 Disks)
- ☐ **City Desk** (4340) A simple desktop publishing system for newsletters.
- ☐ **On-Side** (4387) Prints your spreadsheets (or anything) sideways!
- ☐ **PC-Key Draw** (4391-4394) Powerful CAD design software system. Works w/keyboard or mouse. (4 disks) **HD**
- ☐ **PrintShop Graphics** (4397) A large collection of clip art (You must have PrintShop to use this disk!)
- ☐ **PrintMaster Graphics** (4398) Lots of clip art for people who already own the PrintMaster program.
- ☐ **Draft Choice** (4399) A professional drafting and design package. Create highly detailed schematics, flowcharts, circuits, and much more!
- ☐ **Banner Maker** (4801) Make banners of various styles and sizes. Requires an Epson or compatible printer.

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- ☐ **French I & II** (4500,4501) French vocabulary for students. (2 Disks)
- ☐ **Spanish I & II** (4505,4506) Spanish vocabulary and verb drills for Spanish language students. (2 Disks)
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XT/10 Drives	Video Options			
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Dual	675	855	1125	1195
20MB	900	1050	1275	1350
40MB	1050	1210	1450	1525

S Systems 286/12

- Intel 80286-12 CPU
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20MB	1190	1640	1715
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- Hard/floppy drive controller
- Enhanced 101 key keyboard
- Baby AT style case
- 220W power supply
- 1P, 1S Port

AT 286-16 Drives	Video options		
	Mono	EGA	VGA
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40MB	1500	1950	2020
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Amdek V410A	150
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Samsung mono-12 flat	105
Samsung mono 14	105

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Amdek C722	515
AST EGA	515
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Mitsubishi 1430C	405
Samsung EGA 14	375

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NEC Multisync 3D	675
NEC Multisync 4D	1150
NEC Multisync 5D	2350
NEC Multisync plus	915
NEC Macsync	600
Sony 1302P	Call

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NEC P5200	525
NEC P5300	695
Okidata 320P	375
Okidata 321P	520
Okidata 390	520
Okidata 391	705
Okidata 393	1105
Okidata 393C	1185
Toshiba 301	315
Toshiba 311	380
Toshiba 341SL	650
Toshiba 351SX	985

Laser Printers

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Toshiba Pagelaser	2785
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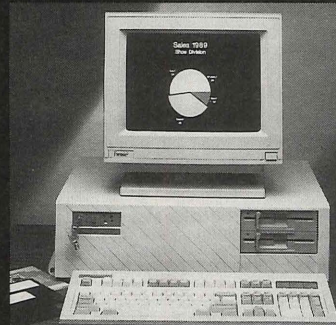
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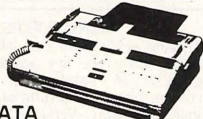
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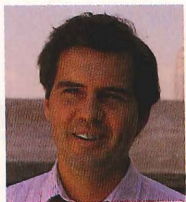
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Drive Time at Home

BY NICK SULLIVAN



Most mornings I slip upstairs to my third-floor office, turn on the computer—and learn something new. I'm not particularly into self-improvement, but I do have a modem and a

subscription to CompuServe, and I frequent the Working from Home Forum. This electronic bulletin board, where people post messages and files in sections such as Business Opportunities, Getting Business, Jobs at Home, Accounting & Bookkeeping, Info Brokering, BusinessTalk/Help, Couples & Kids, and Publishing at Home, is chock-full of advice from experts and anecdotes from amateurs. It's like listening to good talk radio on the way to work.

Today, for instance, I learned that if you are incorporated and deduct disability-insurance premiums from your taxes, you will have to pay taxes on any and all disability payments you receive.

Last week, I learned that anyone can use US Sprint's fiber-optic telephone lines by dialing 10333 before placing the call. Thus, if I'm having trouble with dirty phone lines I can switch to what is guaranteed to be a clean line. That information came from Paul and Sarah Edwards, system operators (or sysops) of the forum. More accurately, it came from Paul, since the two of them don't sit there taking turns entering words into their computer <grin>.

HOME-OFFICE COMPUTING answers mail on the Working from Home Forum (as it does on Prodigy). Moreover, the magazine does a weekly spot on the Edwards' "Home Office" radio show. Thus, I'm not writing as an objective journalist, but as a telecommuter who works alone most of the time and finds the Working from Home Forum full of people with similar needs and interests.

I have been signing on to the forum long enough to know what to expect. It gives me the same comfortable feeling I had as a teacher entering the teachers' lounge. I knew who'd be sitting where and what we'd talk about. The Working from Home Forum lacks the thick smoke, loud voices, and black coffee of the teachers' room—but

NICK SULLIVAN is a senior editor of HOME-OFFICE COMPUTING who lives and works in Massachusetts and telecommutes to the New York office.



The Working from Home Forum is like good talk radio on the way to work.

compensates by drawing from a larger and more varied pool of people. And any place that's full of people—even if you can't see their faces or hear their voices—does have atmosphere.

On the forum, I know that there will be about 100 new messages a day. Many of them will be from Paul and Sarah Edwards, who are extremely good facilitators. By answering virtually every question that is not answered by someone else or pointing people in the right direction, they welcome strangers and set an example—be helpful, be practical, and don't wander too far from the point.

"Welcome to the forum, Clay," Paul recently responded to a newcomer's question about setting rates. "There are a number of people on the forum who can and no doubt will give you some pricing ideas. My guess is between \$25 and \$50 an hour. I am leaning toward the lower rate. I'm concerned you may encounter price resistance above that."

Once the ball is rolling, there are indeed a number of people ready to add spin. Ask about pricing your graphic arts services in Canada or starting a newsletter for working mothers, and you'll get a flood of answers. What's the best two-line cordless phone? Heated debate and a suggestion to check the *Consumer Reports* article in the Consumer Reports section. The best kind of diapers? As I write, there's a long-running thread of messages in the Couples & Kids section on diapers: cotton versus disposable, velcro versus pins, how often men change them. Insuring computer equipment in the home? Stan Berman says that his home-owner's

policy with State Farm includes at no extra charge \$8,000 of insurance on computer equipment that is used for business purposes.

What's it like to use CheckFree, the national electronic check-writing service that anyone can use, no matter where they bank? "This system is what personal productivity is all about!" says Rick Bryan. "CheckFree has enabled me to gain control of my personal cash flow. It has reduced eight hours of monthly effort to under 30 minutes to pay my bills. Now, I face being kicked out of the Procrastinators Club for paying bills on time <grin>."

If you want to pursue a topic, you give the command Read Thread and see all messages under the same heading, even those posted days before. (Generally, a message stays on the board for about eight days before "scrolling off.") You can also set options to read messages from just one section, such as Word Processing and Transcription. In short, you can read the board the way you read the newspaper, focusing on one section or just hopping around.

Reading electronic mail on MCI Mail and CompuServe and browsing through the Working from Home Forum are good ways to start the day and learn something at the same time—though sometimes it's a little depressing. This week I learned that someone wants to start a newsletter for people setting up local area networks (LANs) at home. Are LANs at home really on the horizon? Won't file servers take the fun out of working from home? Time to turn off the radio—I mean, modem—and get to work. ■

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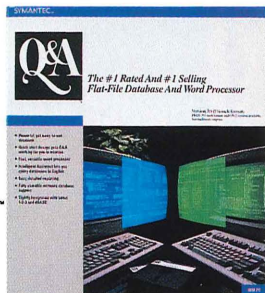
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Tom Judd, president and founder of Curtis Manufacturing, on why you should use a glare filter.

"Headaches, blurry vision, scratchy and burning eyes, overall visual fatigue ... These are the most common manifestations of monitor glare.

The solution? Get a glare filter.

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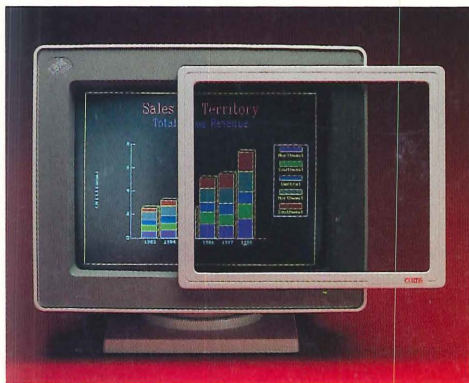
When I asked our design team to develop the highest quality, best value glare filter on the market, I learned that certain filter elements worked better than others."

Glass vs. plastic:

"When I tested the plastic models, they scratched so easily after one cleaning, I could see for myself that glass was significantly better."

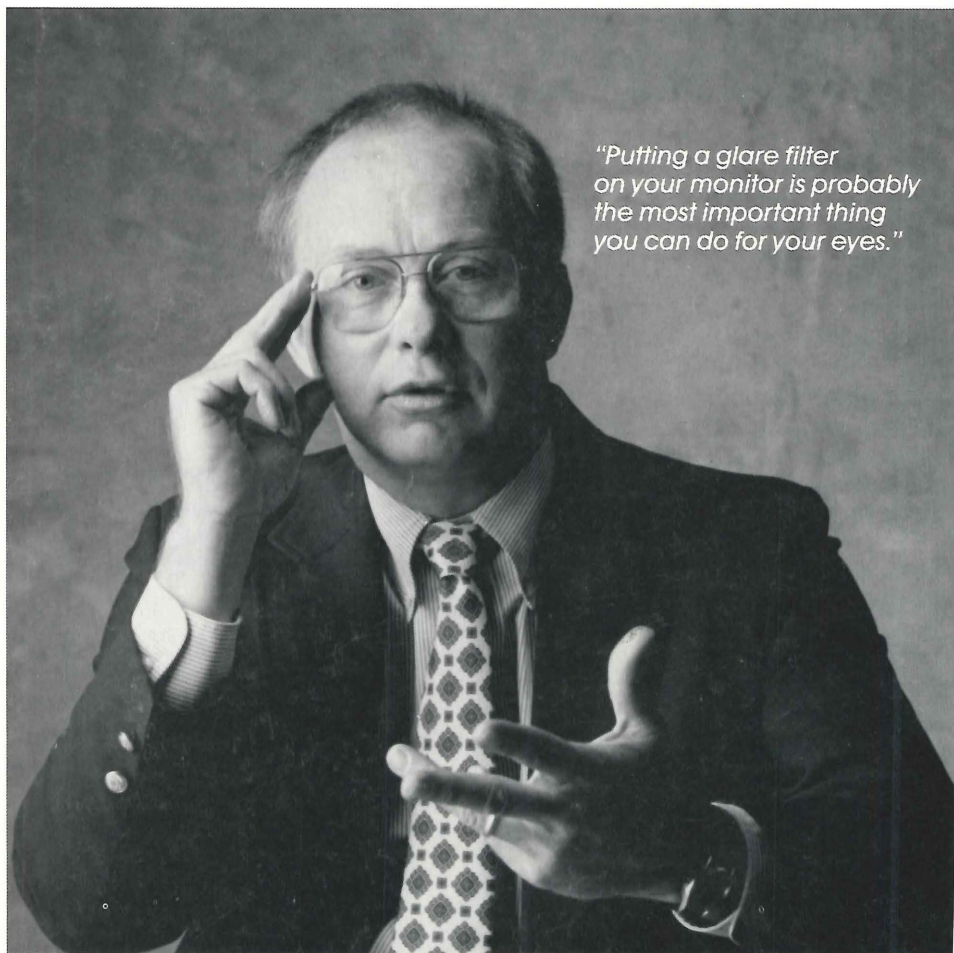
Glass vs. mesh:

"I have a high resolution color monitor. When I put a mesh filter on it, the monitor was harder to read, not easier. The mesh made the characters appear fuzzy."



Two-sided optical coating vs. one:

"I learned that monitor glare would hit both sides of the filter. A glass filter with optical coating on both sides visibly reduces glare better."



"Putting a glare filter on your monitor is probably the most important thing you can do for your eyes."

Cleaning the filter:

"All glare filters need to be cleaned occasionally. I asked, 'How?' Our design team answered by including a bottle of specially formulated, non-streaking cleaner and a lint-free cloth in every package. No other manufacturer does this."

Reversible frame:

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The results:

"The technical specifications of our filters are impressive: glare reduced by 95%, contrast improved 20 times. The design team told me how successful our product was, but I didn't realize it

until I put one on my computer. What a difference! In fact, the Curtis Anti-Glare Glass Filter worked so well, I had one added to every computer at our corporate headquarters."

If you'd like to know more about the Curtis Anti-Glare Glass Filter and other Curtis products that make life in front of a computer easier and less stressful, write or call for our free brochure: *Tips to Computing More Comfortably*, Curtis Manufacturing Company, Inc., 30 Fitzgerald Drive, Jaffrey, NH 03452. (603) 532-4123 ext. 89

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